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PRIMARY FOREST PRODUCTS INDUSTRY & TIMBER USE, MICHIGAN, 1972

BY:
JAMES E. BLYTH,
ALLEN H. BOELTER, &
CARL W. DANIELSON

PULPWOOD PRODUCTION-
1.4 MIL. CORDS IN 1972

9 OUT OF 10 - ROUNDWOOD
REST - WOOD RESIDUE FROM
SAWMILLS, VENEER MILLS, &
OTHER PULPWOOD MILLS

454 MIL. BOARD FT. OF SAW
LOGS IN 1972

HARD MAPLE, ASPEN, RED OAK,
SOFT MAPLE - MAJOR
SPECIES

NORTH CENTRAL FOREST EXPERIMENT STATION
FOREST SERVICE
U.S. DEPARTMENT OF AGRICULTURE

North Central Forest Experiment Station
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1975. Primary forest products industry and timber use, Michigan, 1972. North Cent. For. Exp. Stn., St. Paul, Minn. 45 p., illus. (USDA For. Serv. Resour. Bull. NC-24)

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PRIMARY FOREST PRODUCTS INDUSTRY AND TIMBER USE, MICHIGAN, 1972

James E. Blyth, Allen H. Boelter, and Carl W. Danielson

RECENT TRENDS--FEWER MILLS USE MORE WOOD

Active primary[1] wood-using mills declined from 347 in 1969 to 324 in 1972 but received 145.7 million cubic feet of roundwood in 1972 compared with 132.1 million cubic feet in 1969. Use of softwoods in Michigan was up in 1972 over 1969 after a general decline the previous 15 years. The trend in hardwood use has been up during the last 2 decades.

Wood product markets were generally favorable for producers in 1972. Demand for pallets, railroad ties, furniture, paper, and paperboard products was strong.

Industrial roundwood production has increased about 1.1 percent annually between 1954 and 1972. Hardwoods are becoming a larger proportion of total output. In 1954, about 34 percent of the industrial roundwood cut was softwoods; in 1972, only 24 percent was softwood. Large quantities of hardwood, formerly unusable because of technical processing problems, are now used for pulp.

Medium- to large-size primary mills occur all over Michigan, but the largest concentrations are in the Western Upper Peninsula (UP)[2] and Northern Lower Peninsula (LP) (fig. 1).

Between 1965 and 1972, industrial roundwood production shifted slightly from Upper Michigan and the Southern LP to the Northern LP. Thirty-nine percent of the industrial roundwood came from the Northern LP in 1972 compared with 36 percent in 1965.

The percentage of the industrial roundwood harvest used in Michigan is increasing although log and bolt shipments out-of-State are significantly greater than imports.

TIMBER REMOVALS FOR INDUSTRIAL ROUNDWOOD

Timber removals (from growing stock on commercial forest land) for industrial roundwood were estimated to be 194.3 million cubic feet in 1972, according to the results of a logging utilization study in Michigan in 1965. In 1965, timber removals for industrial roundwood were 167.9 million cubic feet, 14 percent less than in 1972. In upper Michigan, the heaviest timber removals for all species per thousand acres of stocked commercial forest land occurred in Menominee, Baraga, and Dickinson Counties in 1972; in Lower Michigan cutting was heaviest in Ionia, Osceola, Clinton, Oceana, Oscoda, and Roscommon Counties (fig. 2).

The heaviest timber removals for industrial roundwood as a percent of annual allowable cut occurred in Osceola, Oceana, Oscoda, Roscommon, and Lake Counties in 1972 (fig. 3).

Such indicators of harvest intensity should be used in only a general way in deciding future wood procurement strategy because: (1) wood procurement patterns change from year to year, (2) the estimates of timber removals are based on logging utilization factors in 1965, which have undoubtedly changed since, and (3) allowable cut calculations are based on assumptions that may not be economically realistic (see Definition of Terms section). With these limitations in mind, companies requiring more industrial roundwood may want to consider procuring wood in counties where timber removals for industrial roundwood are low in relation to the acres of stocked commercial forest land and low as a percent of annual allowable cut.

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[1] *Mills receiving roundwood or chips from roundwood are primary mills.*

[2] *Geographic area used by Forest Survey to report periodic inventories of the Nation's forest resources. See figure 1 for counties encompassed in each of the four Forest Survey Units in Michigan.*

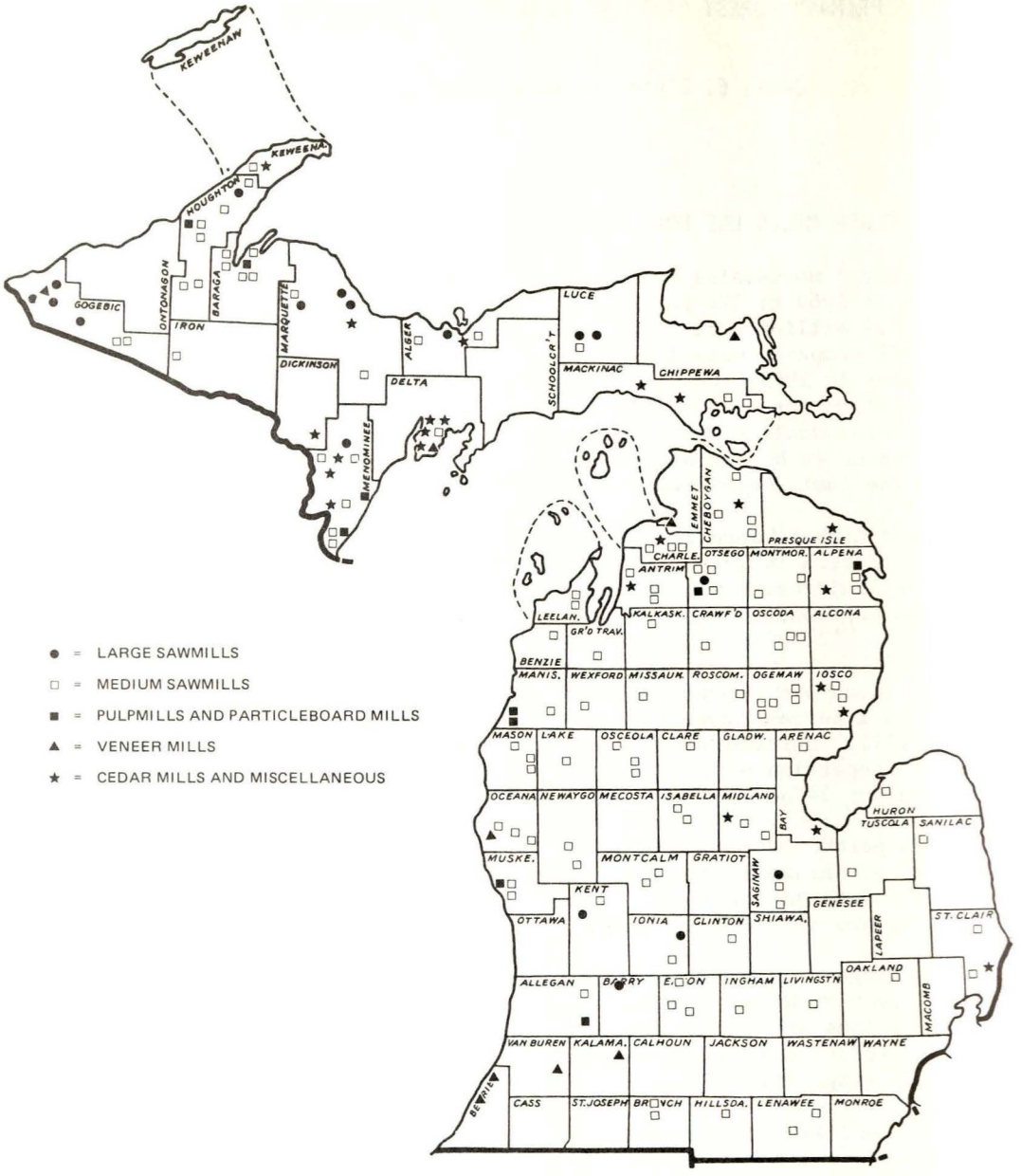
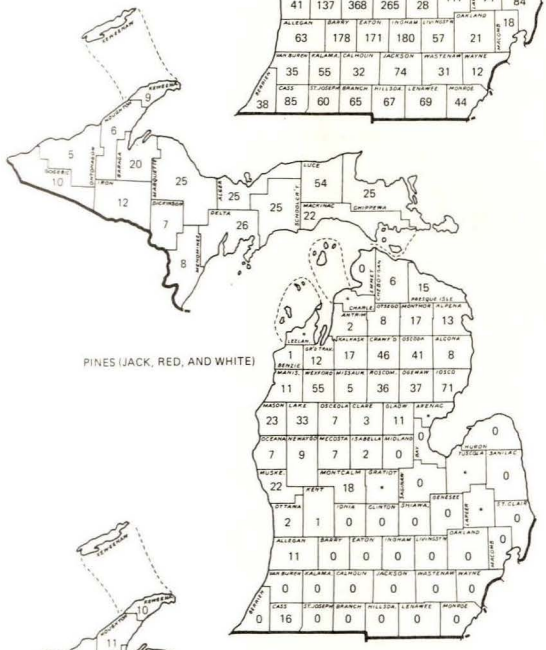


Figure 1--*Primary wood-using plants in Michigan, 1972. Sawmills are classed by volume of lumber produced in 1972: large = 5 million board feet or more; medium = 1 to 4.999 million board feet. (Smaller sawmills not shown.)*

PULPWOOD

Pulpwood production reached 1.4 million cords in 1972. Nine out of 10 cords were roundwood; the rest was wood residue (used for pulpwood) from sawmills, veneer mills, and other mills. Since 1966, aspen[3] pulpwood output has generally declined, while harvesting of other hardwoods for pulpwood continued to in-

[3]*Common and scientific names of all species mentioned in this report are listed on page 9.*



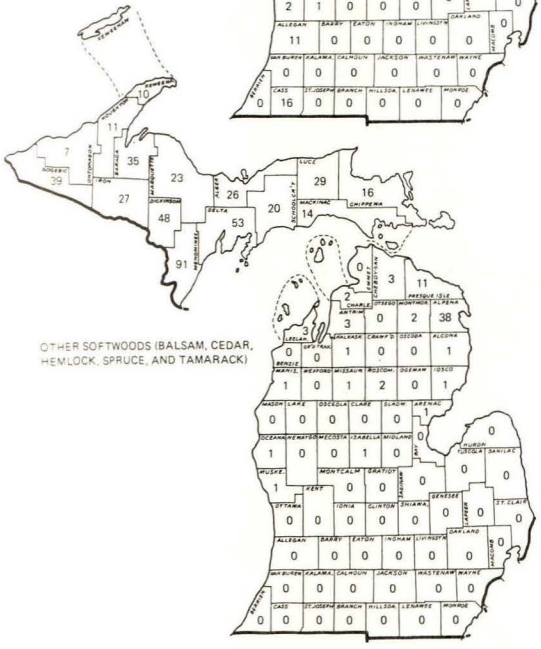


Figure 2.--*Cords of growing stock removals from commercial forest land for industrial roundwood products per 1,000 acres of stocked commercial forest land in Michigan counties, 1972. (* = less than 1/2 cord).*

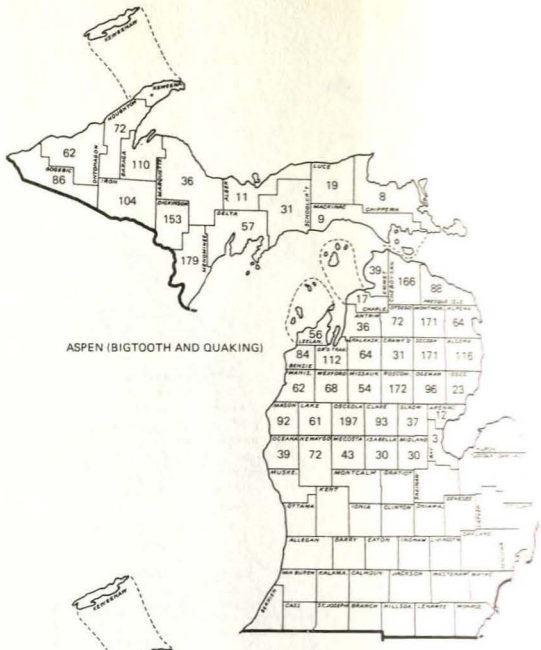


Figure 3.--*Timber removals for industrial roundwood as a percent of annual allowable cut, Upper Michigan and Northern Lower Michigan counties, 1972. (* = less than 0.5 percent.).*

crease (fig. 4). Pine pulpwood production has leveled off since 1966 after more than a decade of rising output. Harvesting of other softwoods for pulpwood has been generally decreasing since 1946.

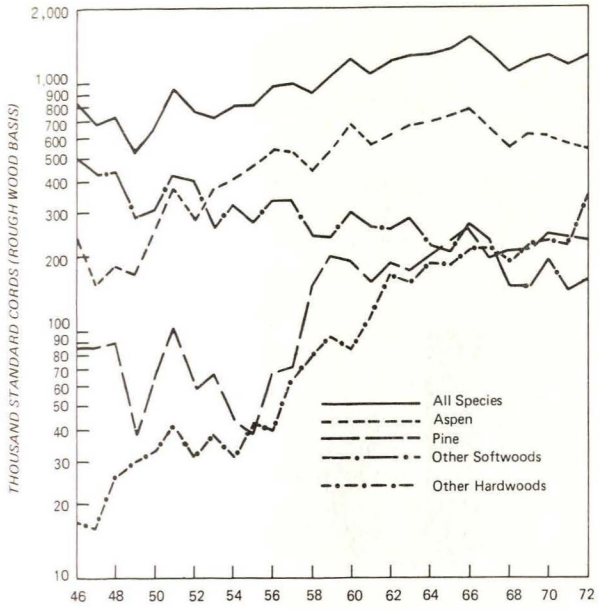


Figure 4.--*Michigan round pulpwood production by species groups, 1946-1972.*

Before 1961, little residue from Michigan's primary wood-using plants was used for pulpwood. Since then, use has expanded rapidly: more than 100,000 cords were procured annually between 1969 and 1972 (fig. 5).

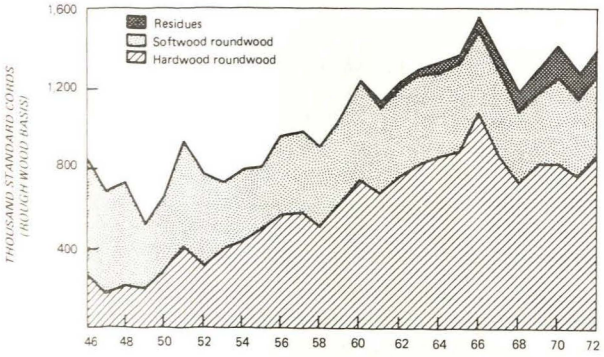


Figure 5.--*Michigan pulpwood production trends, 1946-1972.*

Michigan is a large exporter of pulpwood, primarily to Wisconsin. In 1972, Wisconsin mills received 469,000 cords from Michigan, 19 percent of their total wood requirements. All of these shipments were from the UP. Except for Keeweenaw, each UP county furnished pulpwood for seven or more mills in 1972 (fig. 6). Sixteen Wisconsin mills received pulpwood from this area.

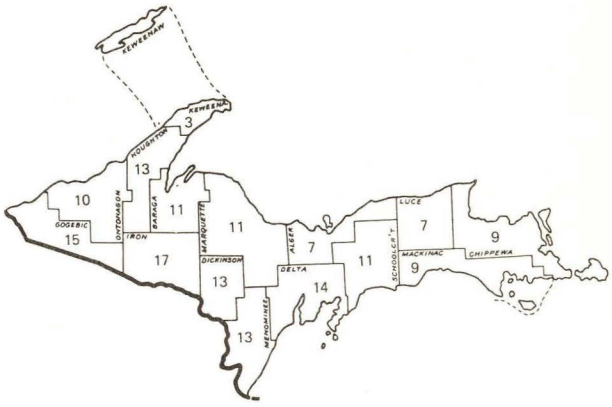


Figure 6.--*Number of plants receiving pulpwood from Upper Michigan counties, 1972.*

Nine Michigan mills received 931,000 cords of pulpwood in 1972, of which 836,000 cords were roundwood. All but 14,000 cords were produced in Michigan. Aspen was the leading species followed by mixed hardwoods and pine. Pulpwood receipts increased greatly in 1959. Since then pulpwood procurement in Michigan has ranged from 700,000 to 1,000,000 cords.

Demand for mixed hardwood roundwood and hardwood residue at Michigan mills has been strong in recent years; demand for oak, aspen, and softwoods has been stable.

SAW LOGS

Michigan loggers harvested 454 million board feet of saw logs in 1972, up 7 percent from 1969. Major species cut were hard maple, aspen, red oak, and soft maple; principal softwoods were hemlock, white pine, and cedar.

Only 27 million board feet were shipped out-of-State, mainly to Wisconsin. More than half (58 percent) of the volume shipped to Wisconsin was aspen.

Aspen saw log production rose 20 million board feet (48 percent) between 1969 and 1972. Aspen is in increasing demand for construction lumber, pallets, crating, and dimension products.

The continuing spread of Dutch Elm Disease from south to north in Michigan probably accounted for the drop of 6.6 million board feet in elm saw logs harvested between 1969 and 1972. In the Southern LP, only 226,000 board feet of elm saw logs were cut, less than one-tenth the volume cut in 1969.

Saw log receipts in Michigan rose from 418 million board feet in 1969 to 430 million board feet in 1972. The increase was about equally divided between softwoods and hardwoods. Michigan is nearly self-sufficient in its saw log requirements: other States supplied only 2.7 million board feet of logs.

Average lumber output per sawmill is increasing because some small mills are closing, some larger mills are increasing their efficiency, and most new mills are larger than average. Output per mill was 5.8 times greater in 1972 than in 1954 and 14 percent higher than in 1969 (fig. 7).

Michigan's lumber production is strongly influenced by the operation of 17 large sawmills, each producing more than 5 million board feet annually. These mills (6 percent of the total) sawed 36 percent of Michigan's lumber in 1972.

The number of active sawmills declined from 307 in 1969 to 283 in 1972. From 1954 to 1969, the active sawmill population declined rapidly. Most of the mills closing were small ones.

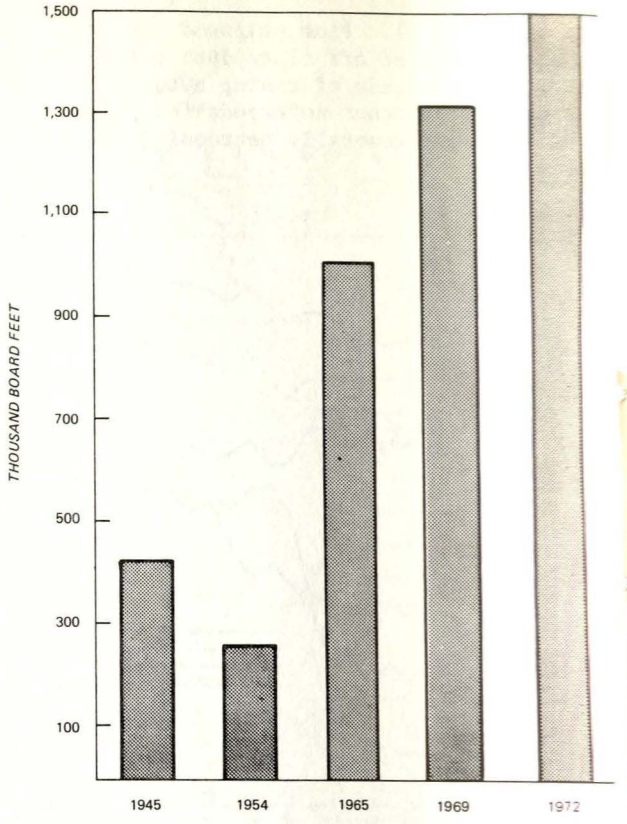


Figure 7.--*Average output per sawmill in Michigan.*

VENEER LOGS

Between 1946 and 1958 Michigan veneer-log production plummeted (fig. 8). The container veneer industry had severe setbacks during this period (1946-1958) as plastic and paperboard containers were substituted for veneer. Similarly, face veneers met stiff competition from plastic substitutes with wood-grain finishes.

From 1958 to 1972, Michigan veneer-log production has been on a plateau. The 1972 harvest of 18.5 million board feet[4] rebounded from only 15.0 million board feet in 1970, but was about the same as in 1960. Both standard veneer and container veneer-log production have stablized since 1958.

[4]*Does not include veneer logs received at Iron Wood Products Company (Gogebic County) to avoid disclosure of operations at this mill.*

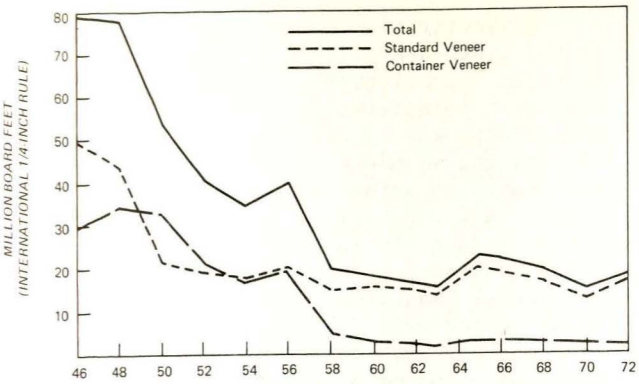


Figure 8.--*Veneer-log production in Michigan for selected years, 1946-1972. (Excludes veneer logs produced for Iron Wood Products Company.)*

One-fourth of the 1972 veneer-log harvest remained in Michigan. Wisconsin (10.8 million board feet) and Indiana (1.5 million board feet) were the major importers of Michigan veneer logs. Three-fourths of the volume was cut in the UP.

Veneer log receipts[4] in Michigan plunged from 9.6 million board feet at 11 mills in 1968 to 5.3 million board feet at 9 mills in 1972. The volume decline, which has been continuing for more than 2 decades, was most severe in paper birch and yellow birch. Michigan forests provided 86 percent of the log requirements of Michigan veneer mills in 1972; Canada supplied most of the imported volume.

OTHER PRODUCTS

Other industrial roundwood products cut in Michigan in 1972 were commercial posts, poles, piling, particleboard bolts, cabin logs, and shingle bolts. Twenty-three plants received 13.3 million cubic feet of these products cut in Michigan. Cabin log and pole production is concentrated in the Eastern UP and Northern LP, post production in the south central and eastern part of the UP and the northeast part of the LP, particleboard bolt production in the Northern LP, and piling production in the Southern LP.

PRIMARY PLANT RESIDUE

In 1972, primary wood-using plants (excluding pulpmills) in Michigan generated 21.2 million cubic feet of coarse residue, 11.5 million cubic feet of fine residue, and 13.9 million cubic feet of bark. The largest concentration of coarse residue not sold or used in the plant of origin was in the Northern LP. The quantity in each Survey Unit not sold or used in the plant of origin in 1972 was:

	Coarse residue (cords)	
Unit	*Softwood*	*Hardwood*
Eastern UP	2,088	2,701
Western UP	359	309
Northern LP	4,375	34,637
Southern LP	29	9,873
All units	6,851	47,520

The largest quantities of fine residue not sold or used in the plant are in the Western UP and Northern LP:

	Fine residue (thousand cubic feet)	
Unit	*Softwood*	*Hardwood*
Eastern UP	519.9	683.4
Western UP	254.4	1,865.8
Northern LP	211.6	2,174.7
Southern LP	2.7	451.2
All units	988.6	5,175.1

Each survey unit yielded 900,000 cubic feet or more of bark that was not sold or used in the plant of origin:

	Bark (thousand cubic feet)	
Unit	*Softwood*	*Hardwood*
Eastern UP	880	828
Western UP	359	2,409
Northern LP	262	3,002
Southern LP	4	936
All units	1,505	7,175

For the entire State, the percent of each residue class not sold or used in the plant of origin was:

Class of residue	*Softwood (percent)*	*Hardwood (percent)*
Coarse	20	20
Fine	75	51
Bark	76	60

Thus, Michigan's primary mill operators have been reasonably successful in finding uses for their coarse residue but relatively unsuccessful in marketing their fine residue and bark. Estimates of residue in 1972 by type of disposal for each county are found in the Appendix. Individuals or firms desiring residue can use the county data in seeking sources.

OUTLOOK

Industrial roundwood production is likely to continue increasing in Michigan during the next 5 years. Pallet, furniture, railroad tie, paper, and paperboard markets are expected to remain strong for the next few years. Several plants have announced expansions and more sawmills will be built by 1978.

Log harvesting will probably increase most rapidly in the Eastern UP where the annual harvest of growing stock appears relatively light compared to the Western UP and the Northern LP.

If the price of softwood market pulp continues to rise, softwood pulpwood production will probably increase significantly in Michigan. Hardwood pulpwood production is likely to gain also as plant capacities are expanded. Softwood will also be in greater demand by the producers of construction lumber and preservative-treated products.

Use of sawmill residues for pulpwood will continue rising as wood waste disposal regulations are more strictly enforced, as more debarkers and chippers are installed, and as competition for roundwood intensifies.

The large quantity of sawdust and bark not sold or used in the plant of origin could become an important supplementary fuel for companies not capable of obtaining adequate quantities of other fuels.

STUDY METHODS

Data for this publication came from a complete canvass of primary wood-using firms using Michigan logs and bolts. All canvassing in Upper Michigan was done by the Institute of Wood Research, Michigan Technological University using mail questionnaires; follow-up on nonrespondents was by telephone and personal contact; as necessary estimates were made based on prior knowledge and contacts. All canvassing in Lower Michigan was done in a similar manner by the Forestry Division, Michigan Department of Natural Resources. The North Central Forest Experiment Station, using similar procedures, contacted out-of-State mills using Michigan roundwood. The Station edited and compiled the data.

DEFINITION OF TERMS

Timber removals for industrial roundwood--The volume of sound wood in growing-stock trees on commercial forest land removed annually for industrial roundwood products (including logging residues).

Industrial roundwood products--Saw logs, pulpwood, veneer logs, poles, commercial posts, piling, particleboard bolts, cabin logs, and shingle bolts.

Commercial forest land--Forest land that is producing or capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation. This includes areas suitable for growing crops of industrial wood generally in excess of 20 cubic feet per acre annually.

Growing-stock trees--All live trees of commercial species except rough and rotten trees.

Allowable cut--The volume of timber on commercial forest land that could be cut annually between 1966-1975 while improving tree stocking and bringing about a more even distribution of age classes. It includes one-tenth of the volume in stands that will reach or exceed rotation age between 1966-1975. It also includes stand improvement cuts (partial cuts) in overstocked stands. Stands selected for harvest cuts or cultural operations must yield at least 3 cords per acre to be included in the allowable cut. Allowable cut is based on the assumptions that all timber will be available and accessible when needed,

and that a ready market will exist for every species, size, and grade of material harvested. Further, it assumes that the proper sequence of cutting is known and will be followed, and that logging practices employed will result in an improved forest. Because there is no way of guaranteeing that these assumptions will be valid over the next 10 years, the allowable cut estimates can be compared with timber removals only in a general way.

Primary wood-using plant residue--Wood materials (coarse and fine) and bark not utilized for principal products at manufacturing plants using roundwood. These residues include wood products (byproducts) obtained incidental to production of principal products, and wood materials not utilized for some product.

Coarse plant residue--Wood residue suitable for chipping such as slabs, edgings, and veneer cores.

Fine plant residue--Wood residue not suitable for chipping, such as sawdust and veneer clippings.

COMMON AND SCIENTIFIC NAMES OF TREE SPECIES MENTIONED

SOFTWOOD SPECIES

Eastern white pine . . . . *Pinus strobus*
Red pine . . . . . *Pinus resinosa*
Jack pine . . . . . *Pinus banksiana*

Spruce:
White spruce . . . . . *Picea glauca*
Black spruce . . . . . *Picea mariana*

Balsam fir . . . . . *Abies balsamea*
Eastern hemlock . . . . *Tsuga canadensis*
Tamarack . . . . . *Larix laricina*
Northern white-cedar . *Thuja occidentalis*

HARDWOOD SPECIES

White oak:
White oak . . . . . *Quercus alba*
Bur oak . . . . . *Quercus macrocarpa*
Chinkapin oak . *Quercus muehlenbergii*
Swamp white oak . . . *Quercus bicolor*

Red oak:
Northern red oak . . . . *Quercus rubra*
Black oak . . . . . *Quercus velutina*
Pin oak . . . . . *Quercus palustris*

Hickory:
Bitternut hickory . *Carya cordiformis*
Pignut hickory . . . . . *Carya glabra*
Shagbark hickory . . . . . *Carya ovata*

Yellow birch . . . *Betula alleghaniensis*

Hard maple:
Black maple . . . . . *Acer nigrum*
Sugar maple . . . . . *Acer saccharum*

Soft maple:
Red maple . . . . . *Acer rubrum*
Silver maple . . . . . *Acer saccharinum*

American beech . . . . *Fagus grandifolia*

Ash:
Black ash . . . . . *Fraxinus nigra*
White ash . . . . . *Fraxinus americana*

Balsam poplar . . . *Populus balsamifera*

Aspen:
Bigtooth aspen . *Populus grandidentata*
Quaking aspen . . *Populus tremuloides*

Eastern cottonwood . . *Populus deltoides*

American basswood . . . *Tilia americana*

Black walnut . . . . . *Juglans nigra*

Elm:
American elm . . . . . *Ulmus americana*
Rock elm . . . . . *Ulmus thomasii*
Slippery elm . . . . . *Ulmus rubra*

Paper birch . . . . . *Betula papyrifera*

Table 1.--*Industrial roundwood production in Michigan, 1954, 1965, 1969, 1972*
(In million cubic feet)

Product	All species				Softwoods				Hardwoods			
	1954	1965	1969	1972	1954	1965	1969	1972	1954	1965	1969	1972
Pulpwood	61.7	103.8	93.2	99.4	28.6	33.9	28.0	30.4	33.1	69.9	65.3	69.0
Saw logs	62.6	57.2	62.9	67.8	15.7	5.7	7.4	8.9	46.9	51.5	55.5	58.9
Veneer logs	5.3	3.0	2.6	2.5	1/	1/	1/	1/	5.3	3.0	2.6	2.5
Poles & piling	.4	.2	.2	.6	.2	.1	.1	.5	.2	.1	.1	.1
Mine timbers	3.7	1.2	1.0	3/	2.5	1.1	1.0	3/	1.2	.2	1/	3/
Posts 2/	2.8	3.6	3.0	3.0	2.8	3.6	3.0	3.0	--	--	--	--
Miscellaneous	13.3	6.8	10.9	4/10.6	.6	.8	2.5	4/ .8	12.7	6.0	8.4	4/9.8
Total	149.8	175.8	173.8	183.9	50.4	45.2	42.0	43.6	99.4	130.7	131.8	140.3

1/ Less than 50 thousand cubic feet.
2/ Includes only posts processed at fence and treating plants.
3/ Not available.
4/ Includes particleboard bolts, cabin logs, shingle bolts, and Michigan veneer logs used by Iron Wood Products Company.

Table 2.--*Volume of industrial roundwood production in Michigan, 1972*

Product	Standard units	Thousand standard units			Thousand cubic feet		
		All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
Pulpwood	Standard cords	1,258	384	874	99,392	30,334	69,048
Saw logs	Board feet 1/	454,431	59,344	395,087	67,798	8,898	58,900
Veneer logs	Board feet 2/	18,479	3	18,476	2,517	3/	2,517
Piling	Linear feet	63	--	63	51	--	51
Poles	Pieces	64	64	--	542	542	--
Posts 4/	Pieces	2,962	2,962	--	3,038	3,038	--
Miscellaneous 5/	Cubic feet	10,568	779	9,789	10,568	779	9,789
Total		--	--	--	183,906	43,601	140,305

1/ International 1/4-inch rule.
2/ International 1/4-inch rule; does not include veneer logs produced for Iron Wood Products Corp.
3/ Less than 500 cubic feet.
4/ Includes only posts processed at fence and treating plants.
5/ Includes cabin logs, shingle bolts, and particleboard bolts, and veneer logs produced for Iron Wood Products Corp.

Table 3.--*Number of active primary wood-using plants in Michigan, 1954, 1965, 1969, 1972*

Kind of plant[1]	1954	1965	1969	1972
Pulpmills	11	10	9	9
Sawmills				
Large[2]	11	15	17	17
Medium[3]	85	107	103	109
Small[4]	1,296	266	187	157
Total	1,392	388	307	283
Veneer mills				
Face, core & specialty	4	4	[5] 6	4
Container	19	8	6	5
Total	23	12	12	9
Charcoal	2	1	--	--
Miscellaneous	102	26	19	[6] 23
Grand total	1,530	437	347	324

1/ Number of active small sawmills estimated for 1954.

2/ Annual lumber production in excess of 5 million board feet.

3/ Annual lumber production from 1 million to 5 million board feet.

4/ Annual lumber production less than 1 million board feet.

5/ One mill classified as a container veneer mill in 1965 is now classified as a specialty veneer mill.

6/ Includes 1 shingle mill, 6 log cabin plants, 1 particleboard plant, 4 treating plants, and 11 fence plants.

Table 4.--*Major industrial roundwood receipts by type of plant in Michigan, 1954, 1965, 1969, 1972*
(In million cubic feet)

Type of plant	All species				Softwoods				Hardwoods			
	1954	1965	1969	1972	1954	1965	1969	1972	1954	1965	1969	1972
Pulpmills	32.3	65.2	54.1	66.0	14.5	17.7	12.1	15.6	17.8	47.5	42.0	50.4
Sawmills	70.3	57.4	62.3	64.0	16.5	5.7	7.8	8.3	53.8	51.7	54.5	55.7
Other mills[1]	13.1	12.5	15.7	15.7	3.6	4.9	5.3	4.2	9.5	7.6	10.4	11.5
Total	115.7	135.1	132.1	145.7	34.6	28.3	25.2	28.1	81.1	106.8	106.9	117.6

1/ Does not include treating plants.

Table 5.--*Growing stock removals for industrial roundwood by species group, unit, and county in Michigan, 1972*
(In thousand cubic feet)

Unit and County	Balsam Fir	Cedar	Hemlock	Pine 1/	Spruce	Tamarack	Aspen	Birch	Oak	Other Hardwoods	All Species
E. Upper Peninsula											
Alger	212	165	604	1,060	101	22	222	355	10	3,414	6,165
Chippewa	321	227	161	1,522	197	18	272	126	4	1,234	4,082
Delta	816	1,044	347	1,255	375	26	1,805	379	3	1,230	7,280
Luce	262	101	499	2,254	293	26	305	247	1	2,888	6,876
Mackinac	160	197	119	984	110	11	284	175	2	1,256	3,298
Menominee	640	2,200	511	326	276	29	4,169	234	0	1,154	9,539
Schoolcraft	401	151	183	1,255	258	18	708	253	4	1,103	4,334
Unit total	2,812	4,085	2,424	8,656	1,610	150	7,765	1,769	24	12,279	41,574
W. Upper Peninsula											
Baraga	136	60	1,043	839	212	25	2,504	1,046	114	3,699	9,678
Dickinson	401	193	763	258	313	25	4,745	256	10	1,056	8,020
Gogebic	204	25	1,667	490	58	0	2,337	559	16	2,768	8,124
Houghton	56	14	312	266	74	3	1,749	310	124	3,266	6,174
Iron	574	5	521	662	314	4	3,879	355	16	2,756	9,086
Keweenaw	52	54	0	154	55	0	3	137	93	370	918
Marquette	612	191	617	2,156	476	62	1,614	807	114	3,723	10,372
Ontonagon	36	11	343	282	26	2	2,681	203	9	3,523	7,116
Unit Total	2,071	553	5,266	5,107	1,528	121	19,512	3,673	496	21,161	59,488
N. Lower Peninsula											
Alcona	19	8	0	201	5	0	2,575	227	757	418	4,210
Alpena	227	383	0	215	0	0	869	111	75	352	2,232
Antrim	34	9	6	26	0	0	339	22	46	762	1,244
Arenac	0	9	0	2	0	0	79	5	39	91	225
Bay	0	0	0	0	0	0	8	0	6	77	91
Benzie	0	0	0	5	0	0	601	55	131	367	1,159
Charlevoix	0	10	3	6	0	0	183	6	12	519	739
Cheboygan	37	44	0	160	0	0	3,134	232	68	817	4,492
Clare	0	0	0	48	0	0	1,416	92	338	320	2,214
Crawford	3	0	0	1,075	0	0	345	1	214	200	1,838
Emmet	0	0	0	0	0	0	430	4	51	345	830
Gladwin	0	0	0	154	0	0	487	7	96	199	943
Grand Traverse	0	0	1	145	0	0	666	71	183	607	1,673
Iosco	0	19	0	1,338	0	0	324	6	56	158	1,901
Isabella	0	6	0	15	0	0	187	0	56	166	430
Kalkaska	4	7	3	358	0	0	731	35	223	214	1,575
Lake	0	0	1	758	0	0	748	21	1,483	674	3,685
Leelanau	0	1	26	2	0	0	375	40	29	920	1,393
Manistee	0	0	5	196	0	0	734	45	824	840	2,644
Mason	0	0	2	279	0	0	623	45	629	412	1,990
Mecosta	0	0	0	79	0	0	348	4	128	216	775
Midland	0	0	0	0	0	0	368	3	26	239	636
Missaukee	0	0	0	88	0	11	871	57	393	326	1,746
Montmorency	18	15	0	381	0	0	2,936	105	687	610	4,752
Newaygo	0	0	1	291	0	0	1,211	34	1,245	807	3,517
Oceana	0	0	6	80	0	0	260	7	960	1,177	2,490
Ogemaw	6	0	0	686	0	0	1,170	38	231	236	2,367
Osceola	0	1	1	96	0	0	2,144	99	595	899	3,835
Oscoda	0	0	0	967	0	0	2,722	137	703	585	5,114
Otsego	0	0	2	149	0	0	1,204	44	115	2,317	3,831
Presque Isle	113	140	0	330	0	0	1,441	234	63	328	2,649
Roscommon	38	10	0	747	0	0	2,256	49	860	530	4,490
Wexford	0	0	2	942	0	0	826	55	338	388	2,551
Unit Total	499	662	59	9,747	5	11	32,611	1,891	11,660	17,116	74,261

(Table 5 cont. on next page)

(Table 5 cont.)

Unit and County	Balsam Fir	Cedar	Hemlock	Pine 1/	Spruce	Tamarack	Aspen	Birch	Oak	Other Hardwoods	All Species
S. Lower Peninsula											
Allegan	0	0	0	113	0	0	52	0	268	239	672
Barry	0	0	0	0	0	0	14	0	588	582	1,184
Berrien	0	0	0	0	0	0	0	0	26	165	191
Branch	0	0	0	0	0	0	1	0	127	128	256
Calhoun	0	0	0	0	0	0	0	0	111	117	228
Cass	0	1	0	79	0	0	8	3	80	256	427
Clinton	0	0	0	0	0	0	0	0	376	482	858
Eaton	0	0	0	0	0	0	0	0	318	384	702
Genessee	0	0	0	0	0	0	0	0	230	251	481
Gratiot	0	0	0	2	0	0	94	0	303	293	692
Hillsdale	0	0	0	0	0	0	0	1	104	224	329
Huron	0	0	0	0	0	0	108	37	80	451	676
Ingham	0	0	0	0	0	0	0	1	284	468	753
Ionia	0	0	0	0	0	0	108	0	609	968	1,685
Jackson	0	0	0	0	0	0	0	0	203	294	497
Kalamazoo	0	0	0	0	0	0	12	0	152	131	295
Kent	0	0	1	7	0	0	14	0	491	762	1,275
Lapeer	0	0	0	2	0	0	19	0	186	209	416
Lenawee	0	0	0	0	0	0	6	0	111	193	310
Livingston	0	0	0	0	0	0	0	0	173	197	370
Macomb	0	0	0	0	0	0	0	0	20	38	58
Monroe	0	0	0	0	0	0	6	0	50	55	111
Montcalm	0	0	0	127	0	0	517	0	250	366	1,310
Muskegon	0	0	1	280	0	0	345	0	335	543	1,504
Oakland	0	0	0	0	0	0	15	0	134	54	203
Ottawa	0	0	0	11	0	0	8	0	189	42	250
Saginaw	0	0	0	0	0	0	29	0	405	445	879
St.Clair	0	0	0	0	0	0	0	0	223	246	469
St.Joseph	0	0	0	0	0	0	9	0	134	98	241
Sanilac	0	0	0	0	0	0	64	0	36	122	222
Shiawassee	0	0	0	0	0	0	0	0	29	59	88
Tuscola	0	0	0	1	0	0	254	0	271	391	917
Van Buren	0	0	0	0	0	0	11	0	50	190	251
Washtenaw	0	0	0	0	0	0	0	0	118	69	187
Wayne	0	0	0	0	0	0	0	0	0	31	31
Unit Total	0	1	2	672	0	0	1,694	42	7,064	9,543	19,018
State Total	5,382	5,301	7,751	24,182	3,143	282	61,582	7,375	19,244	60,099	194,341

1/ Includes White, Red, and Jack Pine

Table 6.--*Sawtimber removals for industrial roundwood by species group, unit, and county in Michigan, 1972*
(In thousand board feet, International 1/4-inch rule)

Unit and county	Balsam fir	Cedar	Hemlock	Pine[1]	Spruce	Tamarack	Aspen	Birch	Oak	Other hardwoods	All species
E. Upper Peninsula											
Alger	730	310	3,825	3,759	408	89	533	2,059	70	20,653	32,436
Chippewa	1,177	960	902	4,942	790	71	968	745	29	7,283	17,867
Delta	2,805	2,678	1,912	3,806	1,497	108	4,287	2,025	23	5,913	25,054
Luce	900	242	3,077	9,392	1,172	108	1,223	1,477	8	17,737	35,336
Mackinac	571	795	683	4,556	450	42	1,009	919	18	6,723	15,766
Menominee	2,201	5,787	3,191	1,709	1,103	115	10,147	1,273	0	6,315	31,841
Schoolcraft	1,377	253	1,008	3,923	1,027	70	1,655	1,426	33	6,271	17,043
Unit total	9,761	11,025	14,598	32,087	6,447	603	19,822	9,924	181	70,895	175,343
W. Upper Peninsula											
Baraga	467	281	6,561	2,840	873	99	6,104	6,528	741	21,835	46,329
Dickinson	1,380	456	4,743	1,100	1,252	99	11,423	1,464	71	6,010	27,998
Gogebic	736	138	10,234	2,638	286	0	10,860	3,607	109	16,441	45,049
Houghton	213	73	1,855	1,568	329	9	6,270	1,964	814	20,294	33,389
Iron	1,982	22	3,071	3,712	1,289	17	11,792	2,235	113	14,650	38,883
Keweenaw	177	75	0	1,033	242	0	17	895	610	2,412	5,461
Marquette	2,106	418	3,632	8,375	1,912	266	4,320	4,776	766	21,687	48,258
Ontonagon	161	57	2,007	1,787	118	8	11,856	1,193	62	16,591	33,840
Unit total	7,222	1,520	32,103	23,053	6,301	498	62,642	22,662	3,286	119,920	279,207
N. Lower Peninsula											
Alcona	84	39	0	588	26	0	7,313	465	1,634	1,230	11,379
Alpena	887	1,580	0	529	0	0	2,577	271	156	921	6,921
Antrim	136	51	44	100	0	0	1,832	138	289	5,003	7,593
Arenac	0	51	0	18	0	0	364	16	253	594	1,296
Bay	0	0	0	0	0	0	47	0	48	520	615
Benzie	0	0	0	12	0	0	1,773	109	297	1,616	3,807
Charlevoix	0	14	17	39	0	0	986	43	78	3,401	4,578
Cheboygan	146	204	0	445	0	0	10,236	901	223	3,786	15,941
Clare	0	0	0	189	0	0	4,057	217	1,453	1,169	7,085
Crawford	11	0	0	2,957	0	0	1,259	9	544	612	5,392
Emmet	0	0	1	0	0	0	1,428	31	299	1,967	3,726
Gladwin	0	0	0	386	0	0	2,167	22	414	1,194	4,183
Grand Traverse	0	0	9	401	0	0	1,771	150	724	2,788	5,843
Iosco	0	103	0	3,395	0	0	1,465	12	203	1,003	6,181
Isabella	0	12	0	101	0	0	556	0	355	1,002	2,026
Kalkaska	12	19	22	947	0	0	2,363	121	1,047	1,106	5,637
Lake	0	0	9	1,878	0	0	2,084	62	4,351	2,175	10,559
Leelanau	0	8	176	13	0	0	1,291	119	131	5,397	7,135
Manistee	0	0	37	533	0	0	1,991	107	3,219	3,450	9,337
Mason	0	0	10	728	0	0	1,647	101	2,430	1,698	6,614
Mecosta	0	0	0	208	0	0	895	8	340	512	1,963
Midland	0	0	0	0	0	0	1,259	23	172	1,513	2,967
Missaukee	0	0	0	240	0	59	2,574	158	1,637	1,374	6,042
Montmorency	58	49	0	1,181	0	0	9,316	310	2,008	2,182	15,104
Newaygo	0	0	7	591	0	0	3,856	80	5,892	2,298	12,724
Oceana	0	0	39	306	0	0	750	36	5,325	5,507	11,963
Ogemaw	19	0	0	1,815	0	0	4,872	150	1,092	1,168	9,116
Osceola	0	5	6	291	0	0	6,290	194	1,889	3,725	12,400
Oscoda	0	0	0	2,835	0	0	8,750	325	2,675	1,668	16,253
Otsego	0	2	16	482	0	0	3,865	261	353	6,199	11,178
Presque Isle	365	490	0	980	0	0	4,472	555	137	1,283	8,282
Roscommon	118	14	0	2,237	0	0	7,364	178	3,440	1,439	14,790
Wexford	0	0	11	2,585	0	0	2,264	124	1,481	1,606	8,071
Unit total	1,836	2,641	404	27,010	26	59	103,734	5,296	44,589	71,106	256,701

(Table 6 cont.)

Unit and county	Balsam fir	Cedar	Hemlock	Pine[1]	Spruce	Tamarack	Aspen	Birch	Oak	Other hardwoods	All species
S. Lower Peninsula											
Allegan	0	0	0	415	0	0	146	0	1,360	1,534	3,455
Barry	0	0	0	0	0	0	78	0	3,775	3,806	7,659
Berrien	0	0	0	0	0	0	0	0	177	1,080	1,257
Branch	0	0	0	0	0	0	5	0	808	851	1,664
Calhoun	0	0	0	0	0	0	0	0	702	766	1,468
Cass	0	7	0	207	0	0	28	23	524	1,660	2,449
Clinton	0	0	0	0	0	0	0	0	2,400	3,111	5,511
Eaton	0	0	0	0	0	0	0	0	2,040	2,516	4,556
Genessee	0	0	0	0	0	0	0	0	1,473	1,654	3,127
Gratiot	0	0	0	3	0	0	286	0	1,907	1,817	4,013
Hillsdale	0	0	0	0	0	0	0	8	663	1,470	2,141
Huron	0	0	0	0	0	0	585	248	521	2,973	4,327
Ingham	0	0	0	0	0	0	0	8	1,817	3,061	4,886
Ionia	0	0	0	0	0	0	322	0	3,894	6,251	10,467
Jackson	0	0	0	0	0	0	0	0	1,301	1,926	3,227
Kalamazoo	0	0	0	0	0	0	68	0	972	856	1,896
Kent	0	0	8	39	0	0	75	4	3,141	4,913	8,180
Lapeer	0	0	0	11	0	0	103	0	1,189	1,375	2,678
Lenawee	0	0	0	0	0	0	34	0	711	1,298	2,043
Livingston	0	0	0	0	0	0	0	0	1,107	1,271	2,378
Macomb	0	0	0	0	0	0	0	0	135	253	388
Monroe	0	0	0	0	0	0	34	0	319	360	713
Montcalm	0	0	0	688	0	0	1,680	0	1,537	2,173	6,078
Muskegon	0	0	6	714	0	0	967	2	2,132	1,500	5,321
Oakland	0	0	0	0	0	0	84	0	851	359	1,294
Ottawa	0	0	0	30	0	0	47	0	1,200	279	1,556
Saginaw	0	0	0	0	0	0	76	0	2,557	2,855	5,488
St. Clair	0	0	0	0	0	0	0	0	1,418	1,631	3,049
St. Joseph	0	0	0	0	0	0	34	0	843	648	1,525
Sanilac	0	0	0	0	0	0	341	0	237	809	1,387
Shiawassee	0	0	0	0	0	0	0	0	189	390	579
Tuscola	0	0	0	4	0	0	1,371	0	1,732	2,565	5,672
Van Buren	0	0	0	0	0	0	53	0	314	1,289	1,656
Washtenaw	0	0	0	0	0	0	0	0	752	466	1,218
Wayne	0	0	0	0	0	0	0	0	0	201	201
Unit total	0	7	14	2,111	0	0	6,417	293	44,698	59,967	113,507
State total	18,819	15,193	47,119	84,261	12,774	1,160	192,615	38,175	92,754	321,888	824,758

[1]Includes white, red, and jack pine.

Table 7.--*Michigan pulpwood production by species groups, 1946-1972*
(In thousand standard cords, rough wood basis)

Year	Aspen	Balsam fir	Birch	Hemlock	Pine	Spruce	Tamarack	Misc. hardwoods	Cedar	Soft-wood residue	Hard-wood residue	Total
1946	246	117	9	250	85	127	3	8	--	--	--	845
1947	153	139	6	149	86	134	2	10	--	--	--	679
1948	182	163	7	132	89	133	2	19	--	1	--	728
1949	168	124	5	62	38	97	1/	25	1/	--	--	519
1950	251	123	6	84	66	99	1/	28	1/	--	--	657
1951	371	140	8	169	103	110	1/	34	--	--	--	935
1952	275	153	8	125	58	120	1/	23	--	--	--	762
1953	365	102	5	71	67	81	1/	33	--	--	--	724
1954	404	137	5	62	43	119	1	26	--	--	--	797
1955	459	122	4	36	38	111	1/	38	--	--	--	808
1956	537	119	4	88	67	115	1/	36	--	--	--	966
1957	521	147	7	61	70	118	1/	56	--	--	--	980
1958	434	115	1	35	149	86	1	79	--	--	--	900
1959	523	109	4	39	197	83	3	90	--	5	--	1,053
1960	669	135	9	46	188	108	5	75	--	2	--	1,237
1961	558	115	16	44	156	96	4	96	--	21	--	1,106
1962	601	104	21	57	184	86	4	144	--	22	--	1,223
1963	662	121	23	62	174	88	3	131	--	33	--	1,297
1964	674	85	38	59	198	72	3	146	--	5	42	1,322
1965	704	74	32	64	224	65	2	149	--	5	46	1,365
1966	777	88	12	99	251	74	1	194	--	4	71	1,571
1967	646	90	11	60	193	75	1	200	--	3	65	1,344
1968	540	62	13	45	205	39	2	172	--	6	84	1,168
1969	606	44	23	63	207	39	2	196	--	8	114	1,302
1970	596	67	33	69	239	51	3	196	--	10	142	1,406
1971	548	53	23	43	235	45	2	196	--	13	109	1,267
1972	529	60	36	50	229	38	3	309	4	21	122	1,401

1/ Less than 500 cords.

Table 8.--*Pulpwood receipts in Michigan for selected years, 1946-1972*
(In thousand standard cords, rough wood basis)

Year	Roundwood						Soft-wood residue	Hard-wood residue	Total
	Pine	Spruce	Other soft-woods	Aspen	Oak 1/	Other 1/ hard-woods			
1946	85	133	121	69	--	8	--	--	416
1953	75	101	100	142	--	33	--	--	451
1960	128	94	87	431	11	59	--	--	810
1961	109	75	68	351	39	58	--	--	700
1962	97	29	35	387	41	90	--	--	679
1963	84	79	49	398	46	86	--	--	742
1964	107	68	40	429	49	96	--	2	791
1965	114	71	39	436	56	91	--	18	825
1966	143	78	49	526	61	106	--	41	1,004
1967	117	81	48	323	85	82	--	38	774
1968	133	61	38	328	59	99	--	56	774
1969	116	16	21	358	79	94	--	87	771
1970	152	22	29	332	70	112	11	77	805
1971	115	17	21	298	79	108	1	61	700
1972	127	14	56	322	78	239	9	86	931

1/ Oak receipts from Upper Peninsula counties are included with other hardwoods--the volume is not significant.

Table 9.--*Pulpwood receipts in Michigan by area of origin, roundwood and residues, 1946-1972*
(In thousand standard cords, rough wood basis)

Year	Roundwood					Residues			Total
	Area of origin					Area of origin			
	Mich.	Wis.	Minn.	Other states	Canada	Mich.	Wis.	Other states	
1946	259	--	12	--	145	--	--	--	416
1947	239	42	21	--	142	--	--	--	444
1948	270	--	22	1	191	1	--	--	485
1949	130	--	3	1/	125	--	--	--	258
1950	258	--	3	--	122	--	--	--	383
1951	398	4	9	1	170	--	--	--	582
1952	290	5	1	2	151	--	--	--	449
1953	319	11	11	1/	110	--	--	--	451
1954	309	1/	4	1/	99	--	--	--	412
1955	356	--	5	--	94	--	--	--	455
1956	437	--	7	--	91	--	--	--	535
1957	427	--	9	--	97	--	--	--	533
1958	458	--	7	--	84	--	--	--	549
1959	602	3	7	--	86	1	--	--	699
1960	727	1/	1/	--	83	--	--	--	810
1961	628	1	--	--	71	--	--	--	700
1962	677	1	1	--	--	--	--	--	679
1963	669	2	--	--	71	--	--	--	742
1964	728	1	--	--	59	3	--	—	791
1965	732	1	--	--	74	18	--	--	825
1966	862	3	1/	1	97	40	--	1	1,004
1967	651	1/	1/	1/	85	34	--	4	774
1968	653	3	1/	1/	62	49	1	6	774
1969	681	2	--	--	2	71	6	9	771
1970	714	1	1/	1/	2	70	8	10	805
1971	638	1/	1/	--	1/	51	--	11	700
1972	833	3	--	1/	--	84	--	11	931

1/ Less than 500 cords.

Table 10.--*Michigan pulpwood production by species groups and destination, 1972*
(In thousand standard cords, rough wood basis)

Species	Destination of wood			
	Michigan	Wisconsin	Other states and Canada	Total
Roundwood:[1]				
Pine	127	101	--	228
Spruce	14	24	--	38
Balsam fir	28	33	--	61
Hemlock	22	28	--	50
Tamarack	2	1	--	3
Cedar	4	--	--	4
Aspen	322	207	[2]	529
Oak[3]	78	--	--	78
Birch	34	2	—	36
Other hardwoods[4]	202	28	1	231
Total	833	424	1	1,258
Residues:				
Softwoods	9	3	9	21
Hardwoods	75	42	4	121
All material	917	469	14	1,400

1/ Includes chips from roundwoods.
2/ Less than 500 cords.
3/ Excludes a small quantity of oak from the Upper Peninsula.
4/ Includes small quantity of oak from Upper Peninsula.

Table 11.--*Pulpwood receipts in Michigan by species group and area of origin, 1972*
(In thousand standard cords, rough wood basis)

Species groups	Area of origin				
	Michigan	Wisconsin	Other states	Canada	Total
Roundwood:[1]					
Pine	127	--	[2]	--	127
Spruce	14	--	--	--	14
Balsam fir	27	--	--	--	27
Hemlock	22	--	--	--	22
Tamarack	3	--	--	--	3
Cedar	4	--	--	--	4
Aspen	322	--	--	--	322
Oak	78	--	--	--	78
Birch	34	1	--	--	35
Other hardwoods	202	2	--	--	204
Total	833	3	[2]	—	836
Residues:					
Softwoods	9	--	--	--	9
Hardwoods	75	--	11	--	86
All material	917	3	11	--	931

1/ Includes chips from roundwood.
2/ Less than 500 cords.

Table 12.--*Pulpwood production from roundwood by county and species groups in Michigan, 1972*
(In hundred standard cords, rough wood basis)

Unit and county 1/	All species	Aspen	Balsam	Birch	Hemlock	Pine	Spruce	Tamarack	Oak	Other hardwoods	Cedar
E. Upper Peninsula:											
Alger	314	27	26	17	25	110	13	3	2/	89	4
Chippewa	315	15	31	5	18	176	25	2	2/	40	3
Delta	721	220	99	29	41	154	48	3	2/	124	3
Luce	351	17	32	10	27	189	38	3	2/	50	5
Mackinac	227	24	18	14	12	64	13	1	2/	79	2
Menominee	736	501	78	13	24	16	35	4	2/	63	2
Schoolcraft	411	87	48	14	21	149	33	2	2/	54	3
Unit total	3,439	891	332	102	168	838	205	18	2/	499	22
W. Upper Peninsula:											
Baraga	624	301	16	18	46	93	25	3	2/	118	4
Dickinson	779	575	49	8	38	21	40	3	2/	43	2
Gogebic	336	120	22	2	98	20	3	--	2/	71	—
Houghton	236	144	5	3	24	7	7	3/	2/	46	3/
Iron	762	398	69	4	43	24	37	1	2/	186	3/
Keweenaw	11	--	6	--	--	--	5	--	2/	--	--
Marquette	744	181	74	27	52	203	60	6	2/	133	8
Ontonagon	570	156	2	7	29	2	2	3/	2/	372	3/
Unit total	4,601	1,875	243	69	330	370	179	13	2/	969	14
N. Lower Peninsula:											
Alcona	440	263	1	27	--	22	--	--	87	40	—
Alpena	151	77	9	12	--	15	--	--	8	30	--
Antrim	2	--	--	--	--	2	--	—	--	--	—
Arenac	3	3	--	3/	--	--	--	--	3/	3/	--
Benzie	108	64	--	7	--	1	--	--	15	21	--
Cheboygan	141	93	3/	17	--	4	--	—	4	23	--
Clare	163	113	--	10	--	3	--	--	16	21	--
Crawford	149	16	3/	--	--	122	--	—	4	7	--
Gladwin	49	20	--	1	--	19	--	—	5	4	—
Grand Traverse	146	79	--	8	--	16	--	--	13	30	--
Iosco	181	12	--	1	--	162	--	—	4	2	—
Isabella	22	19	--	--	--	--	--	--	--	3	--
Kalkaska	101	41	3/	3	--	42	--	--	8	7	--
Lake	380	85	--	2	--	93	--	--	140	60	--
Leelanau	52	32	--	4	--	--	--	--	2	14	--
Manistee	222	85	--	5	--	22	--	--	56	54	--
Mason	182	74	--	5	--	33	--	--	44	26	--
Mecosta	89	43	--	3/	--	9	--	--	13	24	--
Midland	34	32	--	--	--	--	--	--	--	2	--
Missaukee	125	73	--	6	--	10	--	--	17	19	--
Montmorency	279	178	2	10	--	15	--	--	56	18	--
Newaygo	284	117	--	4	--	26	--	--	56	81	--
Oceana	116	29	--	1	--	6	--	--	22	58	--
Ogemaw	155	50	1	3	—	80	--	--	10	11	--
Osceola	361	230	--	12	--	10	--	--	52	57	--
Oscoda	391	184	--	15	--	85	--	--	50	57	--
Otsego	51	31	--	1	—	9	--	--	1	9	--
Presque Isle	211	124	11	26	--	30	--	--	7	13	--
Roscommon	348	151	5	4	--	79	--	—	55	54	--
Wexford	248	91	--	6	--	108	--	--	19	24	--
Unit total	5,381	2,409	29	190	--	1,023	--	--	764	769	--
S. Lower Peninsula:											
Allegan	20	6	--	--	--	3	--	--	10	1	--
Barry	--	--	--	--	--	--	--	--	3/	3/	--
Berrien	1	3/	--	--	--	--	—	--	3/	1	--
Cass	11	1	--	--	--	9	--	--	--	1	--
Gratiot	12	9	--	--	--	3/	--	--	1	2	—
Ionia	13	11	--	--	--	--	--	--	3/	2	--
Kent	1	--	--	--	--	3/	--	--	--	1	--
Montcalm	59	47	--	--	--	4	--	--	2	6	--
Muskegon	127	38	--	--	--	34	--	--	3/	55	--
Ottawa	1	3/	--	--	--	1	--	--	--	--	--
Saginaw	7	3	--	--	--	--	--	--	1	3	--
St. Joseph	1	1	--	—	--	--	--	--	3/	3/	--
Van Buren	1	1	--	--	--	--	--	--	3/	3/	--
Unit total	581	117	--	--	--	51	--	--	14	72	--
State total	14,002	5,292	604	361	498	2,282	384	31	778	2,309	36

1/ Includes only those counties that supplied pulpwood in 1972.
2/ Oak is shown with other hardwoods in Upper Peninsula counties--the volume is not significant.
3/ Less than 50 cords.

Table 13.--*Saw log production and receipts in Michigan by species, 1969 and 1972*

(In thousand board feet, International 1/4-inch rule)

Species	Production			Receipts		
	1969	1972	Change	1969	1972	Change
Softwoods:						
Balsam fir	178	1,194	1,016	83	894	811
Cedar	2,981	8,514	5,533	2,980	8,613	5,633
Hemlock	19,160	19,014	-146	19,290	18,630	-660
Jack pine	1,575	4,536	2,961	1,535	4,022	2,487
Red pine	5,687	7,975	2,288	5,629	7,257	1,628
White pine	20,928	17,164	-3,764	19,991	15,151	-4,840
Spruce	667	819	152	568	814	246
Tamarack	5	128	123	5	128	123
All softwoods	51,181	59,344	8,163	50,081	55,509	5,428
Hardwoods:						
Ash	10,159	10,156	-3	10,158	10,003	-155
Aspen	43,138	63,694	20,556	38,483	49,489	11,006
Basswood	16,872	19,041	2,169	16,797	18,767	1,970
Beech	22,310	22,399	89	22,298	22,192	-106
Paper birch	5,112	4,967	-145	4,983	4,593	-390
Yellow birch	20,733	17,072	-3,661	20,273	16,650	-3,623
Cottonwood	9,630	8,055	-1,575	9,648	7,975	-1,673
Elm	29,015	22,367	-6,648	28,891	21,632	-7,259
Hickory	--	1,654	--	--	1,600	--
Hard maple	106,865	110,365	3,500	105,760	107,178	1,418
Soft maple	31,097	35,328	4,231	30,998	35,178	4,180
Red oak	49,864	62,074	12,210	49,863	61,552	11,689
White oak	19,633	14,014	-5,619	19,630	13,819	-5,811
Walnut	609	1,011	402	557	857	300
Other hardwoods	[1/] 9,850	2,890	--	[1/] 9,866	2,627	--
All hardwoods	374,887	395,087	20,200	368,205	374,112	5,907
All species	426,068	454,431	28,363	418,286	429,621	11,335

[1/] Includes hickory.

Table 14.-- *Saw log production by species and State of destination, Michigan, 1972*

(In thousand board feet, International 1/4-inch rule)

ALL UNITS

SPECIES	MICHIGAN	WISCONSIN	INDIANA	OHIO	OTHER STATES	TOTAL
SOFTWOODS:						
BALSAM FIR	894	300	0	0	0	1194
CEDAR	8488	26	0	0	0	8514
HEMLOCK	18456	558	0	0	0	19014
JACK PINE	4022	514	0	0	0	4536
RED PINE	6919	1056	0	0	0	7975
WHITE PINE	14834	2330	0	0	0	17164
SPRUCE	768	51	0	0	0	819
TAMARACK	128	0	0	0	0	128
TOTAL SWDS	54509	4835	0	0	0	59344
HARDWOODS:						
ASH	9934	90	132	0	0	10156
ASPEN	49414	14248	32	0	0	63694
BASSWOOD	18716	166	159	0	0	19041
BEECH	22192	0	207	0	0	22399
PAP. BIRCH	4558	409	0	0	0	4967
YEL. BIRCH	16502	570	0	0	0	17072
COTTONWOOD	7975	0	80	0	0	8055
ROCK ELM	1996	0	0	0	0	1996
OTHER ELM	19590	781	0	0	0	20371
HICKORY	1600	0	54	0	0	1654
HARD MAPLE	106704	3115	546	0	0	110365
SOFT MAPLE	34923	123	282	0	0	35328
RED OAK	61178	120	776	0	0	62074
WHITE OAK	13687	0	327	0	0	14014
WALNUT	857	0	71	0	83	1011
OTHER SPP.	2627	45	218	0	0	2890
TOTAL HWDS	372453	19667	2884	0	83	395087
ALL SPECIES	426962	24502	2884	0	83	454431

EASTERN UPPER PENINSULA

SOFTWOODS:						
BALSAM FIR	165	0	0	0	0	165
CEDAR	5869	0	0	0	0	5869
HEMLOCK	5357	0	0	0	0	5357
JACK PINE	3032	0	0	0	0	3032
RED PINE	2676	0	0	0	0	2676
WHITE PINE	6079	49	0	0	0	6128
SPRUCE	77	0	0	0	0	77
TAMARACK	2	0	0	0	0	2
TOTAL SWDS	23257	49	0	0	0	23306
HARDWOODS:						
ASH	157	16	0	0	0	173
ASPEN	2688	0	0	0	0	2688
BASSWOOD	1271	42	0	0	0	1313
BEECH	10778	0	0	0	0	10778
PAP. BIRCH	654	6	0	0	0	660
YEL. BIRCH	2292	86	0	0	0	2378
COTTONWOOD	0	0	0	0	0	0
ROCK ELM	200	0	0	0	0	200
OTHER ELM	3504	223	0	0	0	3727
HICKORY	0	0	0	0	0	0
HARD MAPLE	25599	346	0	0	0	25945
SOFT MAPLE	2476	0	0	0	0	2476
RED OAK	110	0	0	0	0	110
WHITE OAK	0	0	0	0	0	0
WALNUT	0	0	0	0	0	0
OTHER SPP.	1281	25	0	0	0	1306
TOTAL HWDS	51010	744	0	0	0	51754
ALL SPECIES	74267	793	0	0	0	75060

(Table 14 cont. on next page)

(Table 14 cont.)

SPECIES	MICHIGAN	WISCONSIN	INDIANA	OHIO	OTHER STATES	TOTAL
WESTERN UPPER PENINSULA						
SOFTWOODS:						
BALSAM FIR	1	300	0	0	0	301
CEDAR	526	26	0	0	0	552
HEMLOCK	12622	558	0	0	0	13180
JACK PINE	1	514	0	0	0	515
RED PINE	1503	1056	0	0	0	2559
WHITE PINE	6728	2281	0	0	0	9009
SPRUCE	666	51	0	0	0	717
TAMARACK	68	0	0	0	0	68
TOTAL SWDS	22115	4786	0	0	0	26901
HARDWOODS:						
ASH	1239	74	0	0	0	1313
ASPEN	6187	14248	0	0	0	20435
BASSWOOD	4574	124	0	0	0	4698
BEECH	1213	0	0	0	0	1213
PAP. BIRCH	1343	403	0	0	0	1746
YEL. BIRCH	14024	484	0	0	0	14508
COTTONWOOD	0	0	0	0	0	0
ROCK ELM	900	0	0	0	0	900
OTHER ELM	4309	558	0	0	0	4867
HICKORY	0	0	0	0	0	0
HARD MAPLE	52627	2769	0	0	0	55396
SOFT MAPLE	5801	123	0	0	0	5924
RED OAK	1974	120	0	0	0	2094
WHITE OAK	140	0	0	0	0	140
WALNUT	0	0	0	0	0	0
OTHER SPP.	31	20	0	0	0	51
TOTAL HWDS	94362	18923	0	0	0	113285
ALL SPECIES	116477	23709	0	0	0	140186
NORTHERN LOWER PENINSULA						
SOFTWOODS:						
BALSAM FIR	728	0	0	0	0	728
CEDAR	2086	0	0	0	0	2086
HEMLOCK	461	0	0	0	0	461
JACK PINE	989	0	0	0	0	989
RED PINE	2731	0	0	0	0	2731
WHITE PINE	1795	0	0	0	0	1795
SPRUCE	25	0	0	0	0	25
TAMARACK	58	0	0	0	0	58
TOTAL SWDS	8873	0	0	0	0	8873
HARDWOODS:						
ASH	3097	0	0	0	0	3097
ASPEN	36736	0	0	0	0	36736
BASSWOOD	7029	0	0	0	0	7029
BEECH	5109	0	0	0	0	5109
PAP. BIRCH	2258	0	0	0	0	2258
YEL. BIRCH	183	0	0	0	0	183
COTTONWOOD	3053	0	0	0	0	3053
ROCK ELM	895	0	0	0	0	895
OTHER ELM	11552	0	0	0	0	11552
HICKORY	437	0	0	0	0	437
HARD MAPLE	12939	0	0	0	0	12939
SOFT MAPLE	10708	0	0	0	0	10708
RED OAK	26861	0	0	0	0	26861
WHITE OAK	3829	0	0	0	0	3829
WALNUT	5	0	0	0	0	5
OTHER SPP.	391	0	0	0	0	391
TOTAL HWDS	125082	0	0	0	0	125082
ALL SPECIES	133955	0	0	0	0	133955

(Table 14 cont. on next page)

(Table 14 cont.) SOUTHERN LOWER PENINSULA

SPECIES	MICHIGAN	WISCONSIN	INDIANA	OHIO	OTHER STATES	TOTAL
SOFTWOODS:						
BALSAM FIR	0	0	0	0	0	0
CEDAR	7	0	0	0	0	7
HEMLOCK	16	0	0	0	0	16
JACK PINE	0	0	0	0	0	0
RED PINE	9	0	0	0	0	9
WHITE PINE	232	0	0	0	0	232
SPRUCE	0	0	0	0	0	0
TAMARACK	0	0	0	0	0	0
TOTAL SWDS	264	0	0	0	0	264
HARDWOODS:						
ASH	5441	0	132	0	0	5573
ASPEN	3803	0	32	0	0	3835
BASSWOOD	5842	0	159	0	0	6001
BEECH	5092	0	207	0	0	5299
PAP. BIRCH	303	0	0	0	0	303
YEL. BIRCH	3	0	0	0	0	3
COTTONWOOD	4922	0	80	0	0	5002
ROCK ELM	1	0	0	0	0	1
OTHER ELM	225	0	0	0	0	225
HICKORY	1163	0	54	0	0	1217
HARD MAPLE	15539	0	546	0	0	16085
SOFT MAPLE	15938	0	282	0	0	16220
RED OAK	32233	0	776	0	0	33009
WHITE OAK	9718	0	327	0	0	10045
WALNUT	852	0	71	0	83	1006
OTHER SPP.	924	0	218	0	0	1142
TOTAL HWDS	101999	0	2884	0	83	104966
ALL SPECIES	102263	0	2884	0	83	105230

Table 15.--*Saw log production by unit, county, and species groups, Michigan, 1972*
(In thousand board feet, International 1/4-inch rule)

Unit and County	White pine	Red and jack pine	Hemlock	Other soft-woods	White oak	Red oak	Yellow birch	Hard maple	Soft maple	Beech	Aspen	Bass-wood	Elm	Other hard-woods	All species
E. Upper Peninsula															
Alger	884	200	2,106	29	0	52	552	9,644	813	3,564	24	97	214	745	18,924
Chippewa	697	313	61	602	0	20	316	1,941	200	2,240	517	101	655	68	7,731
Delta	403	81	5	1,424	0	17	99	477	249	91	111	82	222	97	3,358
Luce	1,468	3,500	1,422	7	0	1	411	8,330	521	3,277	811	609	1,072	134	21,563
Mackinac	1,276	1,325	104	685	0	10	271	1,472	186	940	534	95	766	68	7,732
Menominee	915	158	1,626	3,362	0	0	318	2,200	234	164	687	271	756	355	11,046
Schoolcraft	485	131	33	4	0	10	411	1,881	273	502	4	58	242	672	4,706
Unit total	6,128	5,708	5,357	6,113	0	110	2,378	25,945	2,476	10,778	2,688	1,313	3,927	2,139	75,060
W. Upper Peninsula															
Baraga	559	136	3,487	231	15	632	4,958	12,018	1,398	0	426	688	1,020	203	25,771
Dickinson	391	124	2,321	154	0	51	342	2,185	164	82	559	739	672	681	8,465
Gogebic	1,234	529	4,473	424	0	80	2,724	8,145	895	0	6,319	1,047	1,146	838	27,854
Houghton	664	469	574	239	0	583	1,395	14,190	902	0	3,599	772	337	162	23,886
Iron	2,012	519	842	169	0	92	1,498	5,206	676	3	1,956	393	670	289	14,325
Keweenaw	808	0	0	78	0	332	399	1,459	282	0	17	50	4	118	3,547
Marquette	2,473	773	977	141	125	274	2,609	10,092	1,154	1,128	912	647	1,637	524	23,466
Ontonagon	868	524	506	202	0	50	583	2,101	453	0	6,647	362	281	295	12,872
Unit total	9,009	3,074	13,180	1,638	140	2,094	14,508	55,396	5,924	1,213	20,435	4,698	5,767	3,110	140,186
N. Lower Peninsula															
Alcona	87	87	0	106	45	175	0	2	366	5	1,273	40	37	217	2,440
Alpena	0	10	0	2,000	0	10	0	60	112	0	640	47	90	120	3,089
Antrim	20	20	50	0	0	285	66	1,543	346	267	1,783	1,136	1,746	314	7,576
Arenac	10	10	0	50	10	238	0	0	300	0	300	25	0	325	1,268
Bay	0	0	0	0	23	23	0	0	151	0	46	12	0	406	661
Benzie	0	0	0	0	0	58	0	308	132	152	420	203	271	258	1,802
Charlevoix	25	20	20	0	0	77	22	1,145	113	276	963	876	1,021	157	4,715
Chegoygan	0	0	0	38	0	127	2	347	635	92	4,052	534	1,239	1,021	8,087
Clare	27	105	0	0	288	837	0	50	49	525	764	60	25	137	2,867
Crawford	75	545	0	0	0	180	0	10	5	0	691	250	76	10	1,842
Emmet	0	0	1	0	0	284	2	533	157	199	569	334	398	104	2,581
Gladwin	0	20	0	0	29	292	0	0	536	0	1,697	70	35	608	3,287
Grand Traverse	60	30	10	0	132	357	0	822	135	637	108	207	375	121	2,994
Iosco	60	110	0	100	30	100	0	0	345	0	1,180	125	100	500	2,650
Isabella	0	116	0	5	147	203	0	233	364	50	138	166	1	188	1,611
Kalkaska	20	120	25	12	0	863	11	169	229	13	900	111	508	94	3,075
Lake	25	35	10	0	80	1,950	0	300	165	57	265	105	433	138	3,563
Leelanau	10	5	200	8	0	103	50	2,180	78	1,222	597	475	953	290	6,171
Manistee	65	40	42	0	372	1,907	0	731	500	234	195	156	859	250	5,351
Mason	65	25	12	0	70	1,603	0	278	397	61	81	141	319	140	3,192
Mecosta	0	25	0	0	0	125	0	50	25	0	0	25	0	25	275
Midland	0	0	0	0	41	129	0	50	618	0	578	23	0	954	2,393
Missaukee	10	35	0	58	0	1,228	0	282	240	0	614	116	423	124	3,130
Montmorency	63	287	0	38	50	890	0	159	212	67	3,277	235	714	287	6,279
Newaygo	101	0	8	0	449	4,429	2	126	562	37	1,347	19	37	194	7,311
Oceana	168	35	45	0	1,530	3,308	10	1,447	1,164	525	87	410	433	438	9,600
Ogemaw	20	240	0	0	5	906	0	0	440	0	3,466	215	20	525	5,837
Osceola	42	60	7	5	33	995	0	978	840	464	1,436	289	79	255	5,483
Oscoda	139	729	0	0	50	1,790	0	56	108	3	3,250	56	438	226	6,845
Otsego	56	156	18	2	0	168	18	513	211	122	1,424	380	1,089	415	4,572
Presque Isle	60	158	0	475	0	17	0	135	370	33	1,418	111	312	163	3,252
Roscommon	262	492	0	0	135	2,354	0	20	422	0	2,913	0	99	196	6,893
Wexford	325	205	13	0	310	850	0	412	381	68	264	77	317	41	3,263
Unit total	1,795	3,720	461	2,897	3,829	26,861	183	12,949	10,708	5,109	36,736	7,029	12,447	9,541	144,955

(Table 15 cont.)

Unit and county	White pine	Red and jack pine	Hemlock	Other soft-woods	White oak	Red oak	Yellow birch	Hard maple	Soft maple	Beech	Aspen	Bass-wood	Elm	Other hard-woods	All species
S. Lower Peninsula															
Allegan	0	4	0	0	221	934	0	406	126	182	20	33	0	334	2,260
Barry	0	0	0	0	647	2,988	0	997	703	589	76	392	1	815	7,208
Berrien	0	0	0	0	49	65	0	236	76	218	0	122	0	194	960
Branch	0	0	0	0	293	495	0	129	239	79	5	116	0	266	1,622
Calhoun	0	0	0	0	189	478	0	194	245	71	0	56	0	117	1,350
Cass	26	0	0	7	137	304	0	266	103	257	15	88	2	758	1,963
Clinton	0	0	0	0	488	1,874	0	1,327	669	327	0	297	0	565	5,547
Eaton	0	0	0	0	517	1,489	0	996	448	228	0	330	0	467	4,475
Genessee	0	0	0	0	63	1,387	0	342	729	151	0	192	0	342	3,206
Gratiot	0	0	0	0	211	1,657	0	545	812	91	86	207	0	207	3,816
Hillsdale	0	0	0	0	266	365	0	649	435	75	0	105	0	194	2,089
Huron	0	0	0	0	91	421	0	525	911	90	571	377	0	1,543	4,529
Ingham	0	0	0	0	413	1,375	0	879	1,149	195	0	408	1	546	4,966
Ionia	0	0	0	0	1,172	2,651	0	1,719	1,572	713	81	678	0	1,540	10,126
Jackson	0	0	0	0	420	816	0	565	786	61	0	169	0	359	3,176
Kalamazoo	0	0	0	0	154	803	0	449	226	25	66	37	0	43	1,803
Kent	37	3	9	0	560	2,523	2	1,524	969	900	73	483	5	917	8,005
Lapeer	13	0	0	0	402	729	0	266	519	74	100	88	0	492	2,683
Lenawee	0	0	0	0	273	405	0	452	333	85	33	165	0	226	1,972
Livingston	0	0	0	0	343	746	0	488	340	67	0	198	0	217	2,399
Macomb	0	0	0	0	50	50	0	50	100	25	0	25	0	50	350
Monroe	0	0	0	0	91	223	0	157	91	0	33	58	0	65	718
Montcalm	87	0	0	0	461	1,026	0	606	728	78	652	200	0	464	4,302
Muskegon	59	2	7	0	279	1,820	1	111	224	81	155	10	0	92	2,841
Oakland	0	0	0	0	312	526	0	151	115	2	82	55	0	56	1,299
Ottawa	5	0	0	0	149	1,032	0	32	116	33	46	5	0	64	1,482
Saginaw	0	0	0	0	434	2,007	0	625	978	92	10	400	0	859	5,405
St. Clair	0	0	0	0	433	841	0	345	670	112	0	178	0	368	2,947
St. Joseph	0	0	0	0	251	577	0	73	103	111	19	55	0	280	1,469
Sanilac	0	0	0	0	100	133	0	38	258	7	333	25	0	540	1,434
Shiawassee	0	0	0	0	71	116	0	132	106	26	0	53	0	87	591
Tuscola	5	0	0	0	121	1,554	0	497	981	121	1,339	265	0	863	5,746
Van Buren	0	0	0	0	104	149	0	192	230	113	40	27	0	208	1,063
Washtenaw	0	0	0	0	280	450	0	122	130	20	0	104	5	101	1,212
Wayne	0	0	0	0	0	0	0	0	0	0	0	0	212	4	216
Unit total	232	9	16	7	10,045	33,009	3	16,085	16,220	5,299	3,835	6,001	226	14,243	105,230
State total	17,164	12,511	19,014	10,655	14,014	62,074	17,072	110,365	35,328	22,399	63,694	19,041	22,367	28,733	454,431

Table 16.--*Saw log receipts in Michigan by species and State of origin, 1972*
(In thousand board feet, International 1/4-inch rule)

Species	All States	Michigan	Wisconsin	Indiana
STATE TOTAL				
Softwoods:				
Balsam Fir	894	894	0	0
Cedar	8,613	8,488	125	0
Hemlock	18,630	18,456	174	0
Jack Pine	4,022	4,022	0	0
Red Pine	7,257	6,919	338	0
White Pine	15,151	14,834	317	0
Spruce	814	768	46	0
Tamarack	128	128	0	0
Total Softwoods	55,509	54,509	1,000	0
Hardwoods:				
Ash	10,003	9,934	12	57
Aspen	49,489	49,414	75	0
Basswood	18,767	18,716	25	26
Beech	22,192	22,192	0	0
Paper Birch	4,593	4,558	35	0
Yellow Birch	16,650	16,502	148	0
Cottonwood	7,975	7,975	0	0
Rock Elm	1,996	1,996	0	0
Other Elm	19,636	19,590	46	0
Hickory	1,600	1,600	0	0
Hard Maple	107,178	106,704	342	132
Soft Maple	35,178	34,923	123	132
Red Oak	61,552	61,178	110	264
White Oak	13,819	13,687	0	132
Walnut	857	857	0	0
Other Species	2,627	2,627	0	0
Total Hardwoods	374,112	372,453	916	743
All species	429,621	426,962	1,916	743
EASTERN UPPER PENINSULA				
Softwoods:				
Balsam Fir	62	62	0	0
Cedar	5,704	5,579	125	0
Hemlock	5,354	5,354	0	0
Jack Pine	3,032	3,032	0	0
Red Pine	2,825	2,789	36	0
White Pine	6,529	6,529	0	0
Spruce	82	82	0	0
Tamarack	3	3	0	0
Total Softwoods	23,591	23,430	161	0
Hardwoods:				
Ash	157	157	0	0
Aspen	2,674	2,599	75	0
Basswood	1,431	1,406	25	0
Beech	8,784	8,784	0	0
Paper Birch	1,044	1,009	35	0
Yellow Birch	2,107	2,107	0	0
Rock Elm	400	400	0	0
Other Elm	3,390	3,390	0	0
Hard Maple	25,773	25,698	75	0
Soft Maple	2,603	2,603	0	0
Red Oak	222	197	25	0
Other Species	1,274	1,274	0	0
Total Hardwoods	49,859	49,624	235	0
All Species	73,450	73,054	396	0

(Table 16 cont. on next page)

(Table 16 cont.) WESTERN UPPER PENINSULA

Species	All States	Michigan	Wisconsin
Softwoods:			
Balsam Fir	1	1	0
Cedar	466	466	0
Hemlock	12,787	12,613	174
Jack Pine	1	1	0
Red Pine	1,692	1,390	302
White Pine	6,534	6,217	317
Spruce	707	661	46
Tamarack	67	67	0
Total Softwoods	22,255	21,416	839
Hardwoods:			
Ash	1,247	1,235	12
Aspen	6,135	6,135	0
Basswood	4,382	4,382	0
Beech	2,967	2,967	0
Paper Birch	953	953	0
Yellow Birch	14,310	14,162	148
Rock Elm	700	700	0
Other Elm	4,169	4,123	46
Hard Maple	51,934	51,667	267
Soft Maple	5,596	5,473	123
Red Oak	1,962	1,877	85
White Oak	140	140	0
Other Species	29	29	0
Total Hardwoods	94,524	93,843	681
All Species	116,779	115,259	1,520
NORTHERN LOWER PENINSULA			
Softwoods:			
Balsam Fir	831	831	0
Cedar	2,436	2,436	0
Hemlock	470	470	0
Jack Pine	989	989	0
Red Pine	2,731	2,731	0
White Pine	1,892	1,892	0
Spruce	25	25	0
Tamarack	58	58	0
Total Softwoods	9,432	9,432	0
Hardwoods:			
Ash	2,889	2,889	0
Aspen	36,625	36,625	0
Basswood	7,030	7,030	0
Beech	4,796	4,796	0
Paper Birch	2,291	2,291	0
Yellow Birch	223	223	0
Cottonwood	2,915	2,915	0
Rock Elm	838	838	0
Other Elm	11,771	11,771	0
Hickory	427	427	0
Hard Maple	13,191	13,191	0
Soft Maple	10,449	10,449	0
Red Oak	25,824	25,824	0
White Oak	3,410	3,410	0
Walnut	5	5	0
Other Species	367	367	0
Total Hardwoods	123,051	123,051	0
All Species	132,483	132,483	0

(Table 16 cont. on next page)

(Table 16 cont.) SOUTHERN LOWER PENINSULA

Species	All States	Michigan	Indiana
Softwoods:			
Cedar	7	7	0
Hemlock	19	19	0
Red Pine	9	9	0
White Pine	196	196	0
Total Softwoods	231	231	0
Hardwoods:			
Ash	5,710	5,653	57
Aspen	4,055	4,055	0
Basswood	5,924	5,898	26
Beech	5,645	5,645	0
Paper Birch	305	305	0
Yellow Birch	10	10	0
Cottonwood	5,060	5,060	0
Rock Elm	58	58	0
Other Elm	306	306	0
Hickory	1,173	1,173	0
Hard Maple	16,280	16,148	132
Soft Maple	16,530	16,398	132
Red Oak	33,544	33,280	264
White Oak	10,269	10,137	132
Walnut	852	852	0
Other Species	957	957	0
Total Hardwoods	106,678	105,935	743
All species	106,909	106,166	743

Table 17.--*Veneer-log production*[1] *in Michigan for selected years, 1964-1972*
(In thousand board feet)[2]

Year	Standard veneer logs[3]	Container veneer logs	Total
1946	49,451	29,407	78,858
1948	43,483	34,201	77,684
1950	21,237	32,331	53,568
1952	19,106	21,113	40,219
1954	17,705	16,794	34,499
1956	20,030	19,625	39,655
1958	15,094	4,864	19,958
1960	15,608	2,879	18,487
1962	14,523	2,315	16,838
1963	13,781	1,519	15,300
1965	19,714	2,653	22,367
1966	19,196	2,746	21,942
1968	16,873	2,460	19,333
1970	12,782	2,257	15,039
1972	16,828	1,651	18,479

1/ Does not include Michigan veneer logs used by Iron Wood Products Company.
2/ International 1/4-inch rule.
3/ Face, core, and specialty veneer logs.

Table 18.--*Veneer-log production and receipts*[1] *by species in Michigan, 1968 and 1972*
(In thousand board feet)[2]

Species	Production			Receipts		
	1968	1972	Change	1968	1972	Change
Ash	383	241	-142	352	128	-224
Aspen	220	252	32	173	214	41
Basswood	714	649	-65	491	306	-185
Beech	453	1,018	565	374	178	-196
Paper birch	1,503	823	-680	1,890	1,018	-872
Yellow birch	6,149	4,318	-1,831	2,186	1,188	-998
Cottonwood	439	570	131	497	570	73
Elm	1,212	939	-273	589	155	-434
Hickory	193	86	-107	354	4	-350
Hard maple	5,336	7,121	1,785	1,571	1,227	-344
Soft maple	255	329	74	183	205	22
Red oak	850	1,327	477	392	109	-283
White oak	309	92	-217	3	--	-3
Walnut	585	624	39	7	--	-7
Other species	732	90	-642	511	22	-489
All species	19,333	18,479	-854	9,573	5,324	-4,249

1/ Does not include veneer logs used by Iron Wood Products Company.
2/ International 1/4-inch rule.

Table 19.--*Veneer-log receipts*[1] *in Michigan for selected years, 1946-1972*
(In thousand board feet)[2]

Year	Standard veneer logs[3]	Container veneer logs	Total
1946	24,667	21,388	46,055
1948	26,383	27,516	53,899
1950	12,907	24,497	37,404
1952	14,364	14,183	28,547
1954	12,337	9,535	21,872
1956	10,838	12,726	23,564
1958	7,843	4,754	12,597
1960	9,339	2,736	12,075
1962	5,787	2,122	7,909
1963	6,134	1,464	7,598
1965	9,717	2,711	12,428
1966	10,036	2,746	12,782
1968	7,055	2,518	9,573
1970	4,472	2,257	6,729
1972	3,717	1,607	5,324

1/ Does not include veneer logs used by Iron Wood Products Corp.
2/ International 1/4-inch rule.
3/ Includes face, core, and specialty veneer logs.

Table 20.--*Veneer-log and bolt production*[1] *by species and State or country of destination, Michigan, 1972*
(In thousand board feet)[2]

Species	Destination							Total
	Michigan	Wisconsin	Indiana	Ohio	Kentucky	Other states	Canada	
Softwoods:								
Balsam fir	--	--	--	--	--	--	--	--
Cedar	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--
Jack pine	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--
White pine	--	3	--	--	--	--	--	3
Spruce	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--
Total softwoods	--	3	--	--	--	--	--	3
Hardwoods:								
Ash	128	107	1	3	2	--	--	241
Aspen	214	38	--	--	--	--	--	252
Basswood	306	318	23	2	--	--	--	649
Beech	178	493	--	3	--	--	344	1,018
Paper birch	798	25	--	--	--	--	--	823
Yellow birch	704	3,479	13	--	--	--	122	4,318
Cottonwood	570	--	--	--	--	--	--	570
Rock elm	5	--	--	--	--	--	--	5
Other elm	139	794	1	--	--	--	--	934
Hickory	4	--	30	1	48	--	3	86
Hard maple	1,183	4,681	778	393	74	12	--	7,121
Soft maple	205	106	--	18	--	--	--	329
Red oak	109	816	266	10	126	--	--	1,327
White oak	--	2	62	17	11	--	--	92
Walnut	--	--	267	220	119	8	10	624
Other species	22	31	27	2	5	--	--	87
Total hardwoods	4,565	10,890	1,468	669	385	20	479	18,476
All species	4,565	10,893	1,468	669	385	20	479	18,479

1/ Does not include Michigan logs used by Iron Wood Products Corp.
2/ International 1/4-inch rule.

Table 21.--*Veneer-log production by unit, county, and species groups, Michigan, 1972*

(In thousand board feet, International 1/4-inch rule)

Unit and county	White pine	Red and jack pine	Hemlock	Other soft-woods	White oak	Red oak	Yellow birch	Hard maple	Soft maple	Beech	Aspen	Bass-wood	Elm	Other hard-woods	All species
E. Upper Peninsula															
Alger	0	0	0	0	0	11	708	641	0	278	0	13	69	67	1,787
Chippewa	0	0	0	0	0	6	108	100	0	37	22	15	72	56	416
Delta	0	0	0	0	0	4	268	243	5	120	11	51	55	560	1,317
Luce	0	0	0	0	0	6	550	382	0	161	22	13	61	18	1,213
Mackinac	0	0	0	0	0	6	109	80	0	46	33	3	28	23	328
Menominee	0	0	0	0	0	0	73	77	0	26	0	2	36	51	265
Schoolcraft	0	0	0	0	0	20	328	259	17	169	0	16	40	61	910
Unit total	0	0	0	0	0	53	2,144	1,782	22	837	88	113	361	836	6,236
W. Upper Peninsula															
Baraga	3	0	0	0	0	26	346	745	19	0	0	70	68	25	1,302
Dickinson	0	0	0	0	0	14	80	171	0	0	10	6	45	3	329
Gogebic	0	0	0	0	0	18	346	452	15	0	18	66	88	67	1,070
Houghton	0	0	0	0	0	159	217	613	14	0	0	21	36	2	1,062
Iron	0	0	0	0	2	9	256	405	22	0	1	40	76	13	824
Keweenaw	0	0	0	0	0	226	296	351	7	0	0	10	5	8	903
Marquette	0	0	0	0	0	303	475	556	7	0	0	32	188	20	1,581
Ontonagon	0	0	0	0	0	6	144	442	0	0	8	12	49	5	666
Unit total	3	0	0	0	2	761	2,160	3,735	84	0	37	257	555	143	7,737
N. Lower Peninsula															
Alcona	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alpena	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antrim	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arenac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charlevoix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheboygan	0	0	0	0	0	0	0	130	0	0	0	0	0	0	130
Clare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crawford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emmet	0	0	0	0	0	0	0	81	0	46	26	76	0	0	229
Gladwin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Traverse	0	0	0	0	0	21	0	23	0	0	0	0	0	11	55
Iosco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isabella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalkaska	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake	0	0	0	0	0	25	0	0	25	0	25	26	0	50	151
Leelanau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manistee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	25	0	18	0	0	0	0	0	0	43
Mecosta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Midland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missaukee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montmorency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newaygo	0	0	0	0	0	25	0	0	25	0	25	26	0	50	151
Oceana	0	0	0	0	0	50	0	0	100	0	51	101	0	100	402
Ogemaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osceola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oscoda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Otsego	0	0	0	0	0	16	0	25	0	0	0	0	0	0	41
Presque Isle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roscommon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wexford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unit total	0	0	0	0	0	162	0	277	150	46	127	229	0	211	1,202

(Table 21 cont. on next page)

(Table 21 cont.)

Unit and county	White pine	Red and jack pine	Hemlock	Other soft-woods	White oak	Red oak	Yellow birch	Hard maple	Soft maple	Beech	Aspen	Bass-wood	Elm	Other hard-woods	All species
S. Lower Peninsula															
Allegan	0	0	0	0	11	16	0	170	0	0	0	3	3	223	426
Barry	0	0	0	0	19	54	0	200	0	0	0	0	0	157	430
Berrien	0	0	0	0	15	41	0	28	0	0	0	7	2	181	274
Branch	0	0	0	0	7	0	0	28	0	0	0	0	0	18	53
Calhoun	0	0	0	0	0	22	0	52	0	0	0	5	0	44	123
Cass	0	0	0	0	14	57	0	65	0	0	0	5	0	116	257
Clinton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eaton	0	0	0	0	2	0	0	68	0	0	0	0	0	27	97
Genessee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gratiot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hillsdale	0	0	0	0	0	19	7	39	0	0	0	4	0	6	75
Huron	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12
Ingham	0	0	0	0	0	0	7	8	0	0	0	0	0	8	23
Ionia	0	0	0	0	1	6	0	151	0	0	0	0	0	19	177
Jackson	0	0	0	0	6	35	0	37	0	0	0	4	0	23	105
Kalamazoo	0	0	0	0	0	0	0	51	0	0	0	0	0	33	84
Kent	0	0	0	0	0	8	0	120	0	0	0	0	0	61	189
Lapeer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lenawee	0	0	0	0	4	17	0	18	18	3	0	2	0	33	95
Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macomb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monroe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montcalm	0	0	0	0	0	0	0	59	0	0	0	0	0	22	81
Muskegon	0	0	0	0	0	0	0	74	0	0	0	0	0	38	112
Oakland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ottawa	0	0	0	0	0	0	0	29	0	0	0	0	0	8	37
Saginaw	0	0	0	0	9	17	0	9	0	0	0	0	0	5	40
St. Clair	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
St. Joseph	0	0	0	0	0	0	0	17	0	0	0	0	0	20	37
Sanilac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shiawassee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuscola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Van Buren	0	0	0	0	2	49	0	91	55	132	0	20	18	181	548
Washtenaw	0	0	0	0	0	10	0	1	0	0	0	0	0	0	11
Wayne	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Unit total	0	0	0	0	90	351	14	1,327	73	135	0	50	23	1,241	3,304
State Total	3	0	0	0	92	1,327	4,318	7,121	329	1,018	252	649	939	2,431	18,479

[1]Does not include Michigan logs used by Iron Wood Products Company.

Table 22.--*Veneer-log and bolt receipts*[1] *in Michigan by species and State or country of origin, 1972*
(In thousand board feet)[2]

Species	All states	Michigan	Wisconsin	Minnesota	Canada
Hardwoods:					
Ash	128	128	--	—	--
Aspen	214	214	--	--	--
Basswood	306	306	--	--	--
Beech	178	178	--	—	--
Paper birch	1,018	798	44	22	154
Yellow birch	1,188	704	11	11	462
Cottonwood	570	570	--	--	--
Rock elm	5	5	--	—	--
Other elm	150	139	11	—	--
Hickory	4	4	--	--	--
Hard maple	1,227	1,183	—	—	44
Soft maple	205	205	--	--	--
Red oak	109	109	--	--	--
Other species	22	22	--	--	--
All species	5,324	4,565	66	33	660

1/ Does not include veneer logs used by Iron Wood Products Corp.
2/ International 1/4-inch rule.

Table 23.--*Piling production by county, unit, and species, Michigan, 1972*
(In thousand linear feet)

Unit and county	Hickory	Hard maple	Soft maple	Red oak	White oak
Southern Lower Peninsula:					
Lapeer	1	1	1	3	5
Macomb	1	1	1	2	5
Saginaw	--	--	--	--	6
St. Clair	1	1	3	10	15
Tuscola	--	--	--	--	6
Unit total	3	3	5	15	37

Table 24.-- *Cabin log production by county, unit, and species, Michigan, 1972*
(In thousand board feet)[1]

Unit and county	Cedar	Jack pine	Red pine	White pine	Spruce
Eastern Upper Peninsula:					
Chippewa	250	--	--	--	--
Unit total	250	--	--	--	--
Western Upper Peninsula:					
Dickinson	58	--	--	—	1
Unit total	58	--	--	--	1
Northern Lower Peninsula:					
Antrim	50	--	25	--	--
Cheboygan	150	70	30	--	--
Iosco	--	--	40	40	--
Presque Isle	--	70	30	--	--
Unit total	200	140	125	40	--
State total	508	140	125	40	1

1/ International 1/4-inch rule.

Unit and county	Balsam fir	Cedar
Eastern Upper Peninsula:		
Alger	--	121
Chippewa	--	50
Delta	--	648
Luce	--	50
Mackinac	--	50
Menominee	--	1,355
Schoolcraft	--	122
Unit total	--	2,396
Western Upper Peninsula:		
Dickinson	--	130
Keweenaw	--	50
Marquette	--	120
Unit total	--	300
Northern Lower Peninsula:		
Alcona	--	1
Alpena	40	110
Charlevoix	--	10
Cheboygan	--	8
Isabella	--	5
Kalkaska	--	5
Montmorency	--	7
Presque Isle	10	60
Roscommon	--	10
Unit total	50	216
State total	50	2,912

Table 25.--*Post production by county, unit, and species, Michigan, 1972*
(In thousand pieces)

Unit and county	Balsam fir	Cedar	Red pine
Eastern Upper Peninsula:			
Alger	--	--	2,500
Chippewa	4,875	--	--
Delta	--	5,833	--
Luce	--	--	2,000
Menominee	--	10,200	--
Schoolcraft	--	--	1,000
Unit total	4,875	16,033	5,500
Western Upper Peninsula:			
Baraga	--	--	300
Marquette	--	167	--
Unit total	--	167	300
Northern Lower Peninsula:			
Alcona	--	278	--
Antrim	3,875	--	--
Cheboygan	3,875	--	--
Montmorency	--	--	4,000
Unit total	7,750	278	4,000
Southern Lower Peninsula:			
Allegan	--	--	10,000
Montcalm	--	--	15,000
Unit total	--	--	25,000
State total	12,625	16,478	34,800

Table 26.--*Pole production by county, unit, and species, Michigan, 1972*
(In pieces)

Table 27.--*Volume of residue produced at Michigan primary wood-using mills by kind of material, type of use, county, and unit, 1972*
(In thousand cubic feet)

EASTERN UPPER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
ALGER								
SOLD	54.6	1391.1	54.6	1363.9	0	27.2	0	0
USED WITHIN PLANT	14.9	299.9	0	0	14.9	299.9	28.9	526.0
ALL OTHER DISPOSAL 4/	12.2	278.5	4.1	57.5	8.1	221.0	24.8	305.6
TOTAL	81.7	1969.5	58.7	1421.4	23.0	548.1	53.7	831.6
CHIPPEWA								
SOLD	5.3	30.7	5.3	30.7	0	0	3.0	.5
USED WITHIN PLANT	.2	126.7	0	30.0	.2	96.7	0	66.5
ALL OTHER DISPOSAL 4/	47.5	13.2	28.2	8.1	19.3	5.1	17.8	5.3
TOTAL	53.0	170.6	33.5	68.8	19.5	101.8	20.8	72.3
DELTA								
SOLD	8.3	46.6	8.2	46.6	.1	0	0	0
USED WITHIN PLANT	22.3	1.5	15.3	.9	7.0	.6	2.3	.6
ALL OTHER DISPOSAL 4/	69.0	102.9	39.4	37.0	29.6	65.9	163.3	61.1
TOTAL	99.6	151.0	62.9	84.5	36.7	66.5	165.6	61.7
LUCE								
SOLD	405.9	475.5	397.5	442.8	8.4	32.7	0	0
USED WITHIN PLANT	8.4	32.7	0	0	8.4	32.7	18.6	68.3
ALL OTHER DISPOSAL 4/	137.0	152.2	0	0	137.0	152.2	238.1	196.9
TOTAL	551.3	660.4	397.5	442.8	153.8	217.6	256.7	265.2
MACKINAC								
SOLD	71.3	65.4	71.3	64.3	0	1.1	0	0
USED WITHIN PLANT	0	.9	0	.9	0	0	0	.6
ALL OTHER DISPOSAL 4/	57.6	39.2	10.1	1.4	47.5	37.8	55.4	39.8
TOTAL	128.9	105.5	81.4	66.6	47.5	38.9	55.4	40.4
MENOMINEE								
SOLD	376.2	207.5	376.2	207.5	0	0	0	0
USED WITHIN PLANT	4.3	64.3	2.7	40.6	1.6	23.7	1.7	26.2
ALL OTHER DISPOSAL 4/	351.1	294.3	83.2	109.4	267.9	184.9	368.9	201.9
TOTAL	731.6	566.1	462.1	357.5	269.5	208.6	370.6	228.1
SCHOOLCRAFT								
SOLD	18.0	28.4	18.0	28.4	0	0	0	0
ALL OTHER DISPOSAL 4/	10.5	16.5	0	0	10.5	16.5	11.7	17.6
TOTAL	28.5	44.9	18.0	28.4	10.5	16.5	11.7	17.6

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) EASTERN UPPER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE						BARK 3/	
	TOTAL		COARSE 1/		FINE 2/			
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
ALL COUNTIES E. UPPER PENINSULA								
SOLD	939.6	2245.2	931.1	2184.2	8.5	61.0	3.0	.5
USED WITHIN PLANT	50.1	526.0	18.0	72.4	32.1	453.6	51.5	688.2
ALL OTHER DISPOSAL 4/	684.9	896.8	165.0	213.4	519.9	683.4	880.0	828.2
TOTAL	1674.6	3668.0	1114.1	2470.0	560.5	1198.0	934.5	1516.9
W. UPPER PENINSULA								
BARAGA								
SOLD	62.1	830.5	62.1	752.6	0	77.9	0	0
USED WITHIN PLANT	.4	3.3	.1	1.1	.3	2.2	.1	.5
ALL OTHER DISPOSAL 4/	43.9	311.7	5.3	0	38.6	311.7	42.2	486.2
TOTAL	106.4	1145.5	67.5	753.7	38.9	391.8	42.3	486.7
DICKINSON								
USED WITHIN PLANT	4.9	55.1	3.2	34.8	1.7	20.3	.4	22.5
ALL OTHER DISPOSAL 4/	9.6	0	6.0	0	3.6	0	5.2	0
TOTAL	14.5	55.1	9.2	34.8	5.3	20.3	5.6	22.5
GOGEBIC								
SOLD	676.0	1881.9	618.8	1729.6	57.2	152.3	7.3	24.0
USED WITHIN PLANT	291.0	698.0	116.8	378.8	174.2	319.2	352.4	817.5
ALL OTHER DISPOSAL 4/	67.2	772.1	0	0	67.2	772.1	123.9	673.9
TOTAL	1034.2	3352.0	735.6	2108.4	298.6	1243.6	483.6	1515.4
HOUGHTON								
SOLD	47.6	902.6	47.6	902.6	0	0	0	0
USED WITHIN PLANT	8.5	76.3	5.4	48.2	3.1	28.1	3.5	31.1
ALL OTHER DISPOSAL 4/	24.2	419.1	.6	8.7	23.6	410.4	29.5	588.5
TOTAL	80.3	1398.0	53.6	959.5	26.7	438.5	33.0	619.6
IRON								
SOLD	.6	157.0	.6	107.1	0	49.9	.3	4.2
ALL OTHER DISPOSAL 4/	.4	33.7	0	13.4	.4	20.3	0	73.6
TOTAL	1.0	190.7	.6	120.5	.4	70.2	.3	77.8
KEWEENAW								
SOLD	49.5	128.3	49.5	128.3	0	0	0	0
ALL OTHER DISPOSAL 4/	18.7	46.1	1.4	1.8	17.3	44.3	36.0	84.0
TOTAL	68.2	174.4	50.9	130.1	17.3	44.3	36.0	84.0
MARQUETTE								
SOLD	174.7	919.3	174.7	818.3	0	101.0	0	12.7
ALL OTHER DISPOSAL 4/	118.8	307.5	15.1	.5	103.7	307.0	122.5	502.9
TOTAL	293.5	1226.8	189.8	818.8	103.7	408.0	122.5	515.6

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) WESTERN UPPER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
ALL COUNTIES W. UPPER PENINSULA								
SOLD	1010.5	4819.6	953.3	4438.5	57.2	381.1	7.6	40.9
USED WITHIN PLANT	304.8	832.7	125.5	462.9	179.3	369.8	356.4	871.6
ALL OTHER DISPOSAL 4/	282.8	1890.2	28.4	24.4	254.4	1865.8	359.3	2409.1
TOTAL	1598.1	7542.5	1107.2	4925.8	490.9	2616.7	723.3	3321.6
N. LOWER PENINSULA								
ALCONA								
SOLD	0	4.8	0	4.8	0	0	0	3.1
ALL OTHER DISPOSAL 4/	19.8	55.2	12.5	33.1	7.3	22.1	6.7	21.3
TOTAL	19.8	60.0	12.5	37.9	7.3	22.1	6.7	24.4
ALPENA								
SOLD	0	16.8	0	0	0	16.8	0	0
ALL OTHER DISPOSAL 4/	152.0	74.4	96.0	57.6	56.0	16.8	45.0	37.2
TOTAL	152.0	91.2	96.0	57.6	56.0	33.6	45.0	37.2
ANTRIM								
SOLD	0	228.2	0	228.2	0	0	1.3	0
USED WITHIN PLANT	2.0	66.6	0	0	2.0	66.6	0	0
ALL OTHER DISPOSAL 4/	8.7	263.6	6.7	132.0	2.0	131.6	5.6	231.0
TOTAL	10.7	558.4	6.7	360.2	4.0	198.2	6.9	231.0
ARENAC								
SOLD	.8	205.2	.5	129.6	.3	75.6	1.6	14.5
USED WITHIN PLANT	3.6	0	3.6	0	0	0	.3	.1
ALL OTHER DISPOSAL 4/	6.8	22.8	4.3	14.4	2.5	8.4	4.0	79.1
TOTAL	11.2	228.0	8.4	144.0	2.8	84.0	5.9	93.7
BAY								
SOLD	.1	7.8	0	3.6	.1	4.2	0	0
ALL OTHER DISPOSAL 4/	.2	3.6	.2	3.6	0	0	.2	4.6
TOTAL	.3	11.4	.2	7.2	.1	4.2	.2	4.6
BENZIE								
SOLD	7.3	120.8	4.8	79.2	2.5	41.6	0	0
ALL OTHER DISPOSAL 4/	.3	50.2	0	28.8	.3	21.4	3.1	66.5
TOTAL	7.6	171.0	4.8	108.0	2.8	63.0	3.1	66.5
CHARLEVOIX								
ALL OTHER DISPOSAL 4/	3.8	377.6	2.4	238.5	1.4	139.1	19.6	148.0
TOTAL	3.8	377.6	2.4	238.5	1.4	139.1	19.6	148.0

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) NORTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
CHEBOYGAN								
SOLD	5.7	420.2	5.7	378.2	0	42.0	3.7	144.7
ALL OTHER DISPOSAL 4/	3.3	328.8	0	94.8	3.3	234.0	6.2	159.5
TOTAL	9.0	749.0	5.7	473.0	3.3	276.0	9.9	304.2
CLARE								
SOLD	4.0	85.6	3.8	69.2	.2	16.4	.1	14.0
ALL OTHER DISPOSAL 4/	2.0	60.5	0	23.1	2.0	37.4	2.1	45.6
TOTAL	6.0	146.1	3.8	92.3	2.2	53.8	2.2	59.6
CRAWFORD								
SOLD	12.5	49.9	12.5	49.9	0	0	0	0
USED WITHIN PLANT	3.6	1.2	3.6	1.2	0	0	1.9	6.2
ALL OTHER DISPOSAL 4/	27.3	46.9	11.3	10.8	16.0	36.1	15.8	33.8
TOTAL	43.4	98.0	27.4	61.9	16.0	36.1	17.7	40.0
EMMET								
SOLD	0	41.3	0	41.3	0	0	0	9.7
USED WITHIN PLANT	0	40.8	0	1.4	0	39.4	0	15.1
ALL OTHER DISPOSAL 4/	0	19.4	0	3.8	0	15.6	0	17.5
TOTAL	0	101.5	0	46.5	0	55.0	0	42.3
GLADWIN								
ALL OTHER DISPOSAL 4/	1.6	13.6	1.0	8.6	.6	5.0	.6	5.6
TOTAL	1.6	13.6	1.0	8.6	.6	5.0	.6	5.6
GRAND TRAVERSE								
SOLD	6.8	119.4	4.3	75.4	2.5	44.0	.1	2.4
ALL OTHER DISPOSAL 4/	0	0	0	0	0	0	2.7	45.0
TOTAL	6.8	119.4	4.3	75.4	2.5	44.0	2.8	47.4
IOSCO								
SOLD	0	134.1	0	84.7	0	49.4	0	15.5
ALL OTHER DISPOSAL 4/	11.4	42.6	7.2	26.9	4.2	15.7	7.2	56.6
TOTAL	11.4	176.7	7.2	111.6	4.2	65.1	7.2	72.1
ISABELLA								
SOLD	51.5	285.8	32.5	179.5	19.0	106.3	19.8	82.1
ALL OTHER DISPOSAL 4/	0	2.6	0	2.6	0	0	1.0	32.6
TOTAL	51.5	288.4	32.5	182.1	19.0	106.3	20.8	114.7

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) NORTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
KALKASKA								
SOLD	0	170.5	0	132.0	0	38.5	0	45.5
ALL OTHER DISPOSAL 4/	6.2	45.8	3.9	4.6	2.3	41.2	2.4	42.6
TOTAL	6.2	216.3	3.9	136.6	2.3	79.7	2.4	88.1
LAKE								
SOLD	5.7	130.2	3.6	100.8	2.1	29.4	0	0
ALL OTHER DISPOSAL 4/	5.7	29.4	3.6	0	2.1	29.4	4.7	63.8
TOTAL	11.4	159.6	7.2	100.8	4.2	58.8	4.7	63.8
LEELANAU								
SOLD	2.1	99.5	2.1	99.5	0	0	1.4	58.0
ALL OTHER DISPOSAL 4/	2.3	248.2	.7	120.1	1.6	128.1	.3	69.2
TOTAL	4.4	347.7	2.8	219.6	1.6	128.1	1.7	127.2
MANISTEE								
SOLD	3.6	104.9	3.6	88.1	0	16.8	2.4	19.5
ALL OTHER DISPOSAL 4/	2.4	116.1	.2	51.5	2.2	64.6	.1	69.8
TOTAL	6.0	221.0	3.8	139.6	2.2	81.4	2.5	89.3
MASON								
SOLD	0	218.9	0	145.0	0	73.9	0	69.3
ALL OTHER DISPOSAL 4/	0	258.7	0	183.6	0	75.1	0	94.2
TOTAL	0	477.6	0	328.6	0	149.0	0	163.5
MIDLAND								
SOLD	0	34.1	0	0	0	34.1	.9	0
ALL OTHER DISPOSAL 4/	0	336.9	0	234.3	0	102.6	0	151.3
TOTAL	0	371.0	0	234.3	0	136.7	.9	151.3
MISSAUKEE								
SOLD	3.0	99.5	1.4	45.9	1.6	53.6	.5	29.7
ALL OTHER DISPOSAL 4/	4.4	68.7	3.3	60.3	1.1	8.4	1.7	39.0
TOTAL	7.4	168.2	4.7	106.2	2.7	62.0	2.2	68.7
MONTMORENCY								
SOLD	0	99.2	0	99.2	0	0	0	0
USED WITHIN PLANT	0	15.9	0	15.9	0	0	0	0
ALL OTHER DISPOSAL 4/	7.0	257.7	4.4	120.4	2.6	137.3	2.9	151.4
TOTAL	7.0	372.8	4.4	235.5	2.6	137.3	2.9	151.4

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) NORTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
NEWAYGO								
SOLD	.1	283.7	.1	186.5	0	97.2	.1	11.3
ALL OTHER DISPOSAL 4/	2.1	225.3	1.3	134.9	.8	90.4	.8	193.7
TOTAL	2.2	509.0	1.4	321.4	.8	187.6	.9	205.0
OCEANA								
SOLD	4.5	529.7	.3	387.6	4.2	142.1	3.9	139.2
USED WITHIN PLANT	0	51.1	0	19.6	0	31.5	0	21.7
ALL OTHER DISPOSAL 4/	26.4	227.3	19.2	90.4	7.2	136.9	8.7	162.4
TOTAL	30.9	808.1	19.5	497.6	11.4	310.5	12.6	323.3
OGEMAW								
SOLD	6.8	84.0	5.7	65.1	1.1	18.9	.7	4.2
USED WITHIN PLANT	2.2	28.3	0	0	2.2	28.3	0	0
ALL OTHER DISPOSAL 4/	18.8	539.2	11.8	346.4	7.0	192.8	10.8	261.5
TOTAL	27.8	651.5	17.5	411.5	10.3	240.0	11.5	265.7
OSCEOLA								
SOLD	2.8	91.3	.7	64.6	2.1	26.7	2.7	24.2
ALL OTHER DISPOSAL 4/	9.7	250.9	7.2	151.5	2.5	99.4	2.3	113.6
TOTAL	12.5	342.2	7.9	216.1	4.6	126.1	5.0	137.8
OSCODA								
SOLD	0	134.0	0	120.0	0	14.0	0	31.0
ALL OTHER DISPOSAL 4/	83.6	360.0	52.8	192.0	30.8	168.0	34.2	170.6
TOTAL	83.6	494.0	52.8	312.0	30.8	182.0	34.2	201.6
OTSEGO								
SOLD	20.0	503.2	12.6	317.9	7.4	185.3	0	0
ALL OTHER DISPOSAL 4/	.2	148.4	.1	93.7	.1	54.7	8.1	259.2
TOTAL	20.2	651.6	12.7	411.6	7.5	240.0	8.1	259.2
PRESQUE ISLE								
ALL OTHER DISPOSAL 4/	83.6	15.2	52.8	9.6	30.8	5.6	37.0	6.2
TOTAL	83.6	15.2	52.8	9.6	30.8	5.6	37.0	6.2
ROSCOMMON								
SOLD	0	4.8	0	4.8	0	0	0	0
ALL OTHER DISPOSAL 4/	18.8	201.3	11.9	125.4	6.9	75.9	7.7	84.0
TOTAL	18.8	206.1	11.9	130.2	6.9	75.9	7.7	84.0

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.)

NORTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
WEXFORD								
SOLD	2.9	110.2	1.8	69.6	1.1	40.6	1.2	41.4
ALL OTHER DISPOSAL 4/	48.8	220.1	30.8	139.0	18.0	81.1	20.0	85.7
TOTAL	51.7	330.3	32.6	208.6	19.1	121.7	21.2	127.1
ALL COUNTIES N. LOWER PENINSULA								
SOLD	140.2	4417.6	96.0	3250.2	44.2	1167.4	40.4	759.3
USED WITHIN PLANT	11.4	203.9	7.2	38.1	4.2	165.8	2.2	43.1
ALL OTHER DISPOSAL 4/	557.2	4991.0	345.6	2736.3	211.6	2174.7	261.5	3002.1
TOTAL	708.8	9532.5	448.8	6024.6	260.0	3507.9	304.1	3804.5
S. LOWER PENINSULA								
ALLEGAN								
SOLD	0	299.4	0	189.1	0	110.3	0	117.9
ALL OTHER DISPOSAL 4/	.3	8.6	.2	5.4	.1	3.2	.1	3.5
TOTAL	.3	308.0	.2	194.5	.1	113.5	.1	121.4
BARRY								
SOLD	0	785.8	0	571.4	0	214.4	0	208.5
USED WITHIN PLANT	0	0	0	0	0	0	0	150.1
ALL OTHER DISPOSAL 4/	0	78.6	0	50.0	0	28.6	0	30.9
TOTAL	0	864.4	0	621.4	0	243.0	0	389.5
BERRIEN								
SOLD	0	37.7	0	23.8	0	13.9	0	14.5
USED WITHIN PLANT	0	27.1	0	10.4	0	16.7	0	11.5
ALL OTHER DISPOSAL 4/	0	37.7	0	23.8	0	13.9	0	14.5
TOTAL	0	102.5	0	58.0	0	44.5	0	40.5
BRANCH								
SOLD	0	212.8	0	134.4	0	78.4	0	42.8
ALL OTHER DISPOSAL 4/	0	106.1	0	67.0	0	39.1	0	85.1
TOTAL	0	318.9	0	201.4	0	117.5	0	127.9
CALHOUN								
SOLD	0	1.2	0	.6	0	.6	0	.7
USED WITHIN PLANT	0	.6	0	.6	0	0	0	0
ALL OTHER DISPOSAL 4/	0	9.6	0	6.1	0	3.5	0	4.0
TOTAL	0	11.4	0	7.3	0	4.1	0	4.7
CASS								
SOLD	.5	3.6	.3	2.3	.2	1.3	.1	1.5
ALL OTHER DISPOSAL 4/	1.9	41.7	1.2	26.3	.7	15.4	.8	16.8
TOTAL	2.4	45.3	1.5	28.6	.9	16.7	.9	18.3

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) SOUTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
CLINTON								
SOLD	0	304.0	0	192.0	0	112.0	0	98.9
USED WITHIN PLANT	0	0	0	0	0	0	0	24.7
TOTAL	0	304.0	0	192.0	0	112.0	0	123.6
EATON								
SOLD	1.6	400.0	1.0	319.3	.6	80.7	.6	153.3
USED WITHIN PLANT	0	58.9	0	0	0	58.9	0	42.6
ALL OTHER DISPOSAL 4/	0	11.0	0	8.5	0	2.5	0	5.5
TOTAL	1.6	469.9	1.0	327.8	.6	142.1	.6	201.4
GENESEE								
SOLD	0	5.4	0	3.4	0	2.0	0	2.2
TOTAL	0	5.4	0	3.4	0	2.0	0	2.2
GRATIOT								
SOLD	0	22.8	0	14.4	0	8.4	0	9.3
ALL OTHER DISPOSAL 4/	0	23.9	0	15.1	0	8.8	0	9.4
TOTAL	0	46.7	0	29.5	0	17.2	0	18.7
HILLSDALE								
SOLD	0	157.4	0	99.4	0	58.0	0	63.0
ALL OTHER DISPOSAL 4/	0	26.9	0	17.0	0	9.9	0	10.9
TOTAL	0	184.3	0	116.4	0	67.9	0	73.9
HURON								
SOLD	0	174.3	0	110.1	0	64.2	0	1.6
ALL OTHER DISPOSAL 4/	0	0	0	0	0	0	0	69.5
TOTAL	0	174.3	0	110.1	0	64.2	0	71.1
INGHAM								
SOLD	0	376.3	0	239.3	0	137.0	0	92.1
ALL OTHER DISPOSAL 4/	0	32.7	0	19.0	0	13.7	0	73.3
TOTAL	0	409.0	0	258.3	0	150.7	0	165.4
IONIA								
SOLD	0	623.7	0	390.2	0	233.5	0	107.8
ALL OTHER DISPOSAL 4/	0	70.2	0	48.0	0	22.2	0	164.1
TOTAL	0	693.9	0	438.2	0	255.7	0	271.9

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) SOUTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
JACKSON								
SOLD	0	31.2	0	14.4	0	16.8	0	9.3
ALL OTHER DISPOSAL 4/	0	50.8	0	37.4	0	13.4	0	24.2
TOTAL	0	82.0	0	51.8	0	30.2	0	33.5
KALAMAZOO								
SOLD	0	48.1	0	22.2	0	25.9	0	14.3
USED WITHIN PLANT	0	10.2	0	3.9	0	6.3	0	4.3
ALL OTHER DISPOSAL 4/	0	22.2	0	22.2	0	0	0	14.3
TOTAL	0	80.5	0	48.3	0	32.2	0	32.9
KENT								
SOLD	1.3	628.5	1.3	463.4	0	165.1	.9	226.7
ALL OTHER DISPOSAL 4/	1.0	120.2	.1	9.5	.9	110.7	.1	63.5
TOTAL	2.3	748.7	1.4	472.9	.9	275.8	1.0	290.2
LAPEER								
SOLD	0	19.0	0	12.0	0	7.0	0	7.8
ALL OTHER DISPOSAL 4/	1.0	41.1	.6	26.0	.4	15.1	.4	16.8
TOTAL	1.0	60.1	.6	38.0	.4	22.1	.4	24.6
LENAWEE								
SOLD	0	132.3	0	74.7	0	57.6	0	47.9
USED WITHIN PLANT	0	8.7	0	7.4	0	1.3	0	4.7
ALL OTHER DISPOSAL 4/	0	19.4	0	19.2	0	.2	0	12.1
TOTAL	0	160.4	0	101.3	0	59.1	0	64.7
LIVINGSTON								
SOLD	0	182.4	0	115.2	0	67.2	0	74.4
TOTAL	0	182.4	0	115.2	0	67.2	0	74.4
MONTCALM								
SOLD	5.5	86.6	3.6	56.6	1.9	30.0	1.7	27.6
USED WITHIN PLANT	0	2.7	0	1.9	0	.8	0	.9
ALL OTHER DISPOSAL 4/	.5	79.3	.2	48.0	.3	31.3	.8	39.9
TOTAL	6.0	168.6	3.8	106.5	2.2	62.1	2.5	68.4
MUSKEGON								
SOLD	3.5	363.5	2.4	228.4	1.1	135.1	0	79.9
ALL OTHER DISPOSAL 4/	.3	61.8	0	40.2	.3	21.6	1.6	90.8
TOTAL	3.8	425.3	2.4	268.6	1.4	156.7	1.6	170.7

(TABLE 27 CONT. ON NEXT PAGE)

(TABLE 27 CONT.) SOUTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
OAKLAND								
SOLD	0	91.7	0	57.9	0	33.8	0	37.4
TOTAL	0	91.7	0	57.9	0	33.8	0	37.4
OTTAWA								
SOLD	0	24.0	0	11.1	0	12.9	0	7.2
ALL OTHER DISPOSAL 4/	0	11.1	0	11.1	0	0	0	7.2
TOTAL	0	35.1	0	22.2	0	12.9	0	14.4
SAGINAW								
SOLD	0	1147.4	0	724.7	0	422.7	0	462.0
ALL OTHER DISPOSAL 4/	0	58.3	0	36.8	0	21.5	0	23.8
TOTAL	0	1205.7	0	761.5	0	444.2	0	485.8
ST.CLAIR								
SOLD	0	187.7	0	109.7	0	78.0	0	70.0
USED WITHIN PLANT	0	6.0	0	6.0	0	0	0	3.9
ALL OTHER DISPOSAL 4/	0	37.0	0	30.0	0	7.0	0	19.4
TOTAL	0	230.7	0	145.7	0	85.0	0	93.3
ST.JOSEPH								
SOLD	0	2.9	0	2.9	0	0	0	1.9
ALL OTHER DISPOSAL 4/	0	1.7	0	0	0	1.7	0	0
TOTAL	0	4.6	0	2.9	0	1.7	0	1.9
SANILAC								
SOLD	0	3.5	0	0	0	3.5	0	0
ALL OTHER DISPOSAL 4/	0	129.5	0	84.0	0	45.5	0	53.6
TOTAL	0	133.0	0	84.0	0	49.0	0	53.6
TUSCOLA								
SOLD	0	226.6	0	104.6	0	122.0	0	67.1
ALL OTHER DISPOSAL 4/	0	123.6	0	116.6	0	7.0	0	74.9
TOTAL	0	350.2	0	221.2	0	129.0	0	142.0
VAN BUREN								
SOLD	0	12.6	0	12.6	0	0	0	7.7
USED WITHIN PLANT	0	43.6	0	20.7	0	22.9	0	18.5
ALL OTHER DISPOSAL 4/	0	9.2	0	.8	0	8.4	0	.5
TOTAL	0	65.4	0	34.1	0	31.3	0	26.7

(TABLE 27 CONT. ON NEXT PAGE)

*U.S. Government Printing Office: 1974 — 667-531

(TABLE 27 CONT.) SOUTHERN LOWER PENINSULA

COUNTY OR UNIT AND TYPE OF USE	WOOD RESIDUE							
	TOTAL		COARSE 1/		FINE 2/		BARK 3/	
	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD
WASHTENAW								
SOLD	0	23.7	0	15.0	0	8.7	0	9.7
ALL OTHER DISPOSAL 4/	0	19.0	0	12.0	0	7.0	0	7.5
TOTAL	0	42.7	0	27.0	0	15.7	0	17.2
ALL COUNTIES S. LOWER PENINSULA								
SOLD	12.4	6616.1	8.6	4315.1	3.8	2301.0	3.3	2065.0
USED WITHIN PLANT	0	157.8	0	50.9	0	106.9	0	261.2
ALL OTHER DISPOSAL 4/	5.0	1231.2	2.3	780.0	2.7	451.2	3.8	936.0
TOTAL	17.4	8005.1	10.9	5146.0	6.5	2859.1	7.1	3262.2
ALL UNITS								
TOTAL MICHIGAN								
SOLD	2102.7	18098.5	1989.0	14188.0	113.7	3910.5	54.3	2865.7
USED WITHIN PLANT	366.3	1720.4	150.7	624.3	215.6	1096.1	410.1	1864.1
ALL OTHER DISPOSAL 4/	1529.9	8929.2	541.3	3754.1	988.6	5175.1	1504.6	7175.4
TOTAL	3998.9	28748.1	2681.0	18566.4	1317.9	10181.7	1969.0	11905.2

1/ SUITABLE FOR CHIPPING SUCH AS SLABS, EDGINGS, VENEER CORES, ETC.
2/ NOT SUITABLE FOR CHIPPING SUCH AS SAWDUST, VENEER CLIPPINGS, ETC.
3/ DOES NOT INCLUDE BARK DISPOSAL AT PULPMILLS.
4/ GIVEN AWAY, INCINERATED AS WASTE, DUMPED, ETC.

Blyth, James E., Allan H. Boelter, and Carl W. Danielson. 1975. Primary forest products industry and timber use, Michigan, 1972. North Cent. For. Exp. Stn., St. Paul, Minn. 45 p., illus. (USDA For. Serv. Resour. Bull. NC-24)

Discusses recent Michigan forest industry trends; timber removals for industrial roundwood in 1972; production and receipts in 1972 of pulpwood, saw logs, veneer logs, and other roundwood products. Shows trends in pulpwood and veneer-log production, and compares saw log production in 1969 and 1972. Discusses primary wood-using plant residue and its disposition.

OXFORD: 791:792(774). KEY WORDS: pulpwood, saw logs, veneer logs, production, trends, wood residue, timber removals.

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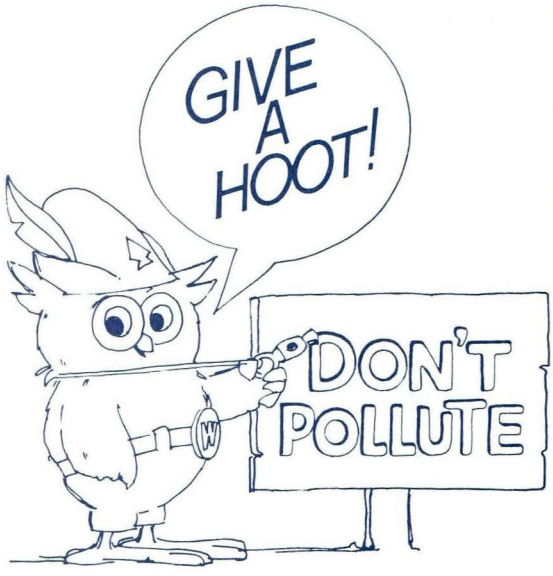

Leave forests and parks clean...or cleaner.